

Strengthening non-proliferation rules and norms— the three-state problem

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From the beginning, champions of nuclear non-proliferation have envisioned the participation of all states in the system of rules framed by the Nuclear Non-proliferation Treaty (NPT). This vision largely has been achieved. Nearly all states adhere more or less fully with the terms of the NPT. Today the main exceptions are North Korea (which was in non-compliance when it abandoned the treaty), Iran (which is not in full compliance with its related obligations), and India, Israel and Pakistan (which have not yet joined).

The latter three states pose unique challenges individually and as a group. India and Pakistan have demonstrated their possession of nuclear weapons and proclaim themselves to be nuclear-weapon states. They now press supporters of the non-proliferation regime to remove technology embargoes applied to them. Israel neither confirms nor denies possession of nuclear weapons. Importantly, unlike India and Pakistan, it does not seek recognition or international prestige from nuclear weapons. Nor do Israeli politicians seek political gains through nuclear posturing. Still, Israel's nuclear status causes turmoil within the non-proliferation regime.

Although these three states retain the sovereign 'right' to possess nuclear weapons, never having signed the NPT, their standing outside the system of non-proliferation obligations and rules undermines global security. Many experts and governments therefore seek ways to bring these three states into a process of strengthening non-proliferation norms and rules.

One alternative is to change nothing, but instead go through the motions of pressing these states to sign the NPT as non-nuclear-weapon states. Through bilateral diplomacy and NPT review conferences, states hector India, Pakistan and especially Israel to abandon nuclear weapons and join the NPT. The aim is understandable, but its achievement is not a serious prospect.

Another alternative recognizes that these three states will not relinquish their nuclear holdings in the foreseeable future and that the NPT cannot feasibly be amended to incorporate them as nuclear-weapon states. This alternative, proffered by former American ambassador Thomas Graham Jr. and scholar Avner Cohen, calls for a freestanding agreement or protocol to provide 'associate membership' for the three states in the NPT.¹ Such a protocol would permit the three to retain their nuclear programmes, 'but inhibit further development'. It would require them to cooperate with international nuclear export controls, prohibit explosive testing of nuclear devices, and participate in the phased elimination of fissile material production, according to Graham and Cohen.

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The Carnegie Endowment for International Peace strategy of Universal Compliance calls for a different approach that would not formalize a new category within or adjacent to the NPT. This paper briefly describes the general obligations the three states and the broader international community would undertake through this approach, and then details a number of more specific policies that actors should consider to reduce the nuclear dangers emanating from South Asia and the Middle East.

Universal Compliance

The strategic aim of non-proliferation policy should be to achieve *universal compliance* with the norms and terms of a deepened nuclear non-proliferation regime. ‘Compliance’ means more than signatures on treaties or declarations of fine intent—it means actual performance. ‘Universal’ means that all actors must comply with those norms and terms that apply to them. This includes states that have joined the NPT, and those that have not. It also includes non-state actors—corporations and individuals. The burden of compliance extends not only to states seeking nuclear-weapon capabilities through dual-use fuel-cycle programmes or those abetting proliferation through technology transfers; it also applies to nuclear-weapon states that are not honouring pledges they have made.

All countries do not bear the same global responsibilities or face the same threats. It is unreasonable to expect all to be limited to the same capabilities. Police possess certain powers and capabilities that

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average citizens do not, but in healthy and just societies the use of these powers is constrained by law, and when abuses occur, citizens have recourse to correct them. The current nuclear order gives five states the temporary right to possess nuclear weapons *and*, as veto-holding members of the Security Council, great influence in setting and enforcing non-proliferation rules. To sustain—much less strengthen—this order, the ‘advantaged’ minority must ensure that the majority perceives that it is beneficial and fair. Universal Compliance seeks to achieve this balance of obligations. It tries to correct the impression that the states with nuclear weapons are

getting much more out of the non-proliferation regime than are others. The strategy presumes and requires that India, Israel and Pakistan accept that special responsibilities and obligations come along with their possession of nuclear weapons, and therefore holds the three accountable to all non-proliferation obligations and measures that the five prior nuclear-weapon states undertake.

Briefly, five obligations form the core of the Universal Compliance strategy:

- Proscribe further national acquisition of facilities that can produce materials directly usable in nuclear weapons;
- Secure all nuclear materials;
- Stop illegal transfers;
- Devalue the political and military currency of nuclear weapons; and
- Commit to conflict resolution.

These obligations derive from the logic of the existing nuclear non-proliferation regime, but are extended to address challenges that were not anticipated when this regime was first established during the Cold War. Fulfilment of these obligations by all actors would effectively solve the most pressing proliferation problems. The full Carnegie Endowment non-proliferation strategy, available at www.ceip.org, details subsidiary national and international policies, resources and institutional reforms that would be

necessary to satisfy these obligations. Some of the necessary steps require new international and national laws and voluntary codes of conduct, while others require only the will to live up to existing commitments.

Incorporating the ‘three states’ into the Universal Framework

The Universal Compliance strategy offers a constructive way to deal with the critical challenge posed by India, Pakistan and Israel—the so-called ‘three-state problem’. Under the Universal Compliance strategy, NPT parties would stop demanding that India, Israel and Pakistan give up their nuclear weapons immediately and join the NPT as non-nuclear-weapon states forthwith. In return, the leading states would seek to persuade the three states to commit themselves politically to agree to the non-proliferation obligations accepted by the United States, China, France, Russia and the United Kingdom (the P5).² The three states would accept obligations to prevent proliferation exports, to secure nuclear weapons and materials, to reduce the role of nuclear weapons in their national security policies, to eschew nuclear testing, and so on. If these states failed to comply with their obligations, they would be subject to the same sorts of sanctions and political pressures as others have been over their past transgressions of non-proliferation rules, and conceivably that other nuclear-weapon states could be subjected to if the rest of the international community agreed to do so. *The goal of persuading India, Israel and Pakistan to abandon nuclear weapons would not be dropped; rather these three states would be expected to eliminate their nuclear arsenals as and when the United States, China, France, Russia and the United Kingdom eliminate theirs.*

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Tolerating these three states’ current possession of nuclear weapons does not mean rewarding them with nuclear reactors, as India and more recently Pakistan have sought. The United States and others would continue not to sell nuclear reactors to India, Israel or Pakistan, pursuant to the Nuclear Suppliers Group agreement of 1992 barring such sales as long as the proposed recipient operates nuclear facilities that are not under international safeguards.³ This restriction on nuclear commerce is necessary to uphold the incentives that reward other states for complying with their obligations not to acquire nuclear weapons. If non-nuclear-weapon states want to ease restrictions on nuclear commerce with India, Pakistan and Israel, they should propose alternative guidelines.

India, Pakistan and Israel will not find it easy to embrace this arrangement, but each country’s leaders have said they strongly support the cause of non-proliferation. The approach here enables them to contribute constructively to international security without accepting obligations greater or less than those borne by the P5. For explicitly shouldering the obligations of responsible international citizenship, they would gain relief from unproductive, ritualistic hectoring or from coercion to eliminate their nuclear arsenals before others do. India may want additional benefits, but this desire flows from an anachronistic belief that the world somehow owes something to states with nuclear weapons. Today, obligations flow the other way around. States possessing nuclear weapons should be judged by their contribution to the global interest in preventing the spread and use of these devices.

By avoiding creation of a distinct third category within the NPT, the approach recommended here does not obfuscate the fundamental dichotomy that non-proliferation strategy must eliminate—that between nuclear-weapons ‘haves’ and ‘have nots’. By tying India, Israel and Pakistan to the disarmament obligations of the five NPT nuclear-weapon states, this strategy seeks to intensify international efforts to encourage all of these states to comply.

Specific policy approaches for South Asia

The nuclear proliferation problem in South Asia has many dimensions. From the standpoint of potential nuclear-weapon use, two threats stand out: a potential military conflict between India and Pakistan that could escalate to nuclear use; and the possibility that Pakistanis—lone individuals or with state support—will transfer nuclear weapons, materiel and know-how to undeterrable actors.

Non-proliferation policies to protect nuclear materials from being diverted to terrorists and to strengthen export control practices are now mandatory under UN Security Council resolution 1540. Pakistan and India—along with other states possessing nuclear-weapon materials—must implement resolution 1540 and go beyond it. Deep reductions in the threat of nuclear war in South Asia and real prospects for elimination of nuclear weapons will require breakthroughs in Indo-Pak relations and Sino-Indian relations, and domestic reform in Pakistan. A few specific measures are described below.

SECURE NUCLEAR CAPABILITIES AGAINST TERRORIST ACQUISITION

To help prevent terrorists from acquiring nuclear-weapon capabilities, the United States and others should lead an initiative to ensure that Pakistan and India employ state-of-the-art practices and technologies to secure nuclear weapons, materiel and know-how. This is consistent with each state's obligation under Security Council resolution 1540. Pursuant to the NPT, assistance to secure and safeguard nuclear materials, weapons and know-how should be implemented, while assistance should be refused that enhances the operability of nuclear weapons themselves.

The United States and other international leaders should:⁴

- Expand the scope of threat-reduction programmes to fund as a priority measure the protection of radiological and fissile materials in Pakistan and India;
- Provide technologies and procedures to improve the reliability of personnel in organizations responsible for producing, storing, transporting and managing nuclear materials and/or weapons. These improvements also may be implemented through discussions of best practices in other countries;
- Provide assistance to border control and customs agencies in Pakistan and India, in order to improve the detection of nuclear and radiological materials;
- Develop programmes to engage Pakistani and Indian scientists, engineers and technical experts in cooperative work on threat reduction projects such as monitoring and detection systems for border crossings and nuclear-material stockpiles; and
- Provide training and equipment for physical protection, material control and accounting for Indian and Pakistani facility operators and regulators.

India and Pakistan, unlike North Korea and Iran, are not barred under international treaty from having nuclear weapons. As a result, states proffering the assistance recommended here should not expect to gain physical access to sensitive Pakistani or Indian nuclear facilities; rather, they can provide recommendations, descriptions of best practices and security technologies that Indians and Pakistanis would then apply to their facilities.

IMPLEMENT NUCLEAR RISK-REDUCTION MEASURES

India and Pakistan should be strongly encouraged to implement nuclear risk-reduction practices that their diplomats and experts have sketched as recently as June 2004. Priority measures include:⁵

- Establishment of national risk-reduction centres in both countries to administer agreed confidence-building measures;
- Commitment not to develop, produce or use 'tactical' nuclear weapons;
- Agreement not to flight test missiles in the direction of the other country;
- Agreement to flight test missiles only from designated test ranges; and
- Provision of advance notification of the movement of missiles for training purposes.

In addition, the United States has protected certain interests of Pakistani leaders and the Pakistani army in not publicly disclosing all that it has known over the years about nuclear proliferation from Pakistan; disclosure should be considered if Pakistani leaders do not act urgently with India to build confidence in their nuclear stewardship. The United States also should assess Indo-Pak risk-reduction efforts in determining the quantity and quality of military trade with both countries.

PHASE OUT NATIONAL FISSILE MATERIAL PRODUCTION

The single most effective way for Pakistan and India to limit the potential cost and risks of a nuclear arms race, and to contain the pool of material that could potentially be diverted to terrorists, would be to end the production of fissile materials. Strong security and economic arguments can be made that both states would benefit from such a move today. They have material for nuclear arsenals large enough to meet their deterrence needs, as long as China ceases producing more fissile materials for its arsenal. Pakistan would not need further production to fuel its small LEU-based nuclear energy programme, and India's plutonium breeder programme, if it ever proved feasible, could rely on stocks on hand or imports from Russia's vast surplus stockpile. Russian exports to India should be endorsed by the Nuclear Suppliers Group in the event that India agrees to cease the further separation of plutonium. Indeed, were India and Pakistan to dismantle their uranium enrichment and plutonium separation facilities and place all their nuclear reactors under international safeguards, the case could be made strongly for international agreement to open commerce with them in nuclear power reactors and fuel services.

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Nevertheless, Indian and Pakistani leaders will not stop all production of fissile material unilaterally or even bilaterally. They could only be expected to participate in a process of nuclear regulation and agreement that included China; China, in turn, would insist on inclusion of other producers, making the challenge global.

RESOLVE THE KASHMIR DISPUTE

The single most likely cause of deterrence failure in South Asia, and therefore nuclear use, would be an attempt by Pakistan or India to forcibly change the territorial status quo in Kashmir. India

appears to recognize that it cannot gain sovereignty over the part of Kashmir that Pakistan now controls. Thus, the primary challenge is to persuade Pakistan and other possible instigators of organized violence to accept that they cannot forcibly gain sovereignty over the part of Kashmir that India controls.

Creative and courageous political and diplomatic work will be required to stabilize Kashmir. This will entail not only Indo-Pak diplomacy, but also much greater attention by all parties to the needs and aspirations of the Kashmiri people. Indian, Pakistani and international authors have offered numerous constructive policy prescriptions relating to Kashmir.⁶ The task now is for the states with influence in India and/or Pakistan to encourage Indian and Pakistani leaders to pursue these prescriptions. This is a long-term challenge, but it is unrealistic to expect deep progress toward eliminating nuclear weapons in South Asia before it is met.

SUPPORT POLITICAL REFORM IN PAKISTAN

Some governments inspire more confidence as stewards of nuclear-weapon capabilities than others. The transfer of Pakistan's nuclear-weapon designs, centrifuges and related weapon capabilities to North Korea, Iran, Libya and perhaps other destinations raises understandable questions about whether it can be trusted. The absence of real checks and balances in Pakistan limits confidence that dangerous actors and inadequate policies and procedures will be identified and replaced.

The army's dominant role in Pakistan must be recognized as a systemic problem. While the army often claims, with some reason, that it is the only institution that can guide the state, and that elected civilian leaders chronically misgovern, Pakistan cannot be stable over the long-term under army rule. Over time, the army, including its intelligence arm, has intensified the Islamization of Pakistani politics, nurtured the Taliban and opened the political space for extremist parties. To correct these dangerous developments, the army and outside supporters of Pakistan must seek to strengthen civilian institutions so that effective political and economic authority can be transferred to them. Among other things, this is necessary to make the army accountable to someone other than itself, including in nuclear policy. Because the Pakistani army bases its claim to political power and economic resources on the threat that India is said to pose to Kashmiri Muslims and Pakistan itself, the army lacks motivation to find ways to resolve the Kashmir issue. This in turn justifies Pakistan's nuclear-weapon requirements.

For Pakistan's long-term internal stability, and for Indo-Pak rapprochement, the capacity of civilian political parties and institutions must be strengthened so that they can become effective governors of the polity and the economy. Ultimately, this is a key to an effective non-proliferation strategy in South Asia.

PROMOTE STABLE CONVENTIONAL FORCE BALANCES

India is in the midst of major modernization of its conventional forces. It plans to procure from Russia, Israel and the United States advanced aircraft, airborne early warning and command and control systems, and possibly missile defences. These acquisitions could appear to threaten Pakistan's nuclear deterrent. Were that to occur, Pakistan, in the absence of a fundamentally transformed relationship with India, would most likely react by increasing the quantity and survivability of its nuclear force, along with means to penetrate Indian defences. All of this could raise the risks of escalation in crisis and accelerate the Indo-Pak nuclear arms race.

Efforts to constrain both a conventional and nuclear arms race in South Asia are complicated by the fact that India seeks simultaneously to deter and defend against Pakistan *and* China. A triangular security dilemma results, wherein capabilities India acquires to balance China are perceived as threatening by Pakistan, prompting Pakistan to seek greater capabilities, which in turn add to the threats India perceives.

India and China are making progress in resolving their border dispute and improving their relationship; were India and Pakistan to make similar progress, conditions could be created for negotiated measures to regulate conventional and nuclear capabilities on a triangular basis. But hard realities will remain: China will continue to modernize its military capability, which will prompt India to do the same, which will in turn alarm Pakistan, whose wherewithal is significantly inferior. To go further and consider eliminating nuclear arsenals, Pakistan would look for India to make initiatives, and India would react to China's lead. But China's willingness to cut back and eliminate its nuclear arsenal is linked to its nuclear security relationships with the United States and Russia, which is why the Indo-Pak disarmament challenge is now imbedded in the global disarmament process.

A POLICY ON NUCLEAR COMMERCE

Nuclear technology exporters need a clear policy on doing nuclear business with India. Indian officials emphatically urge American, French, Russian and other counterparts to waive or amend non-proliferation prohibitions against nuclear technology commerce (often subsidized) to India. India will not put all of its nuclear facilities under safeguards, but wants nuclear suppliers to change existing rules and sell it nuclear reactors anyway.

Nuclear reactor exporters should not accede to the Indian demand as long as doing so would undermine non-nuclear-weapon states' commitments to strengthening the non-proliferation regime. Some of these states argue that recognizing India as a nuclear-weapon state and providing unrestricted nuclear commerce to India would reward proliferation and thereby devalue their own nuclear abstinence. Such a message combined with deteriorating security could lead some of these countries to reconsider nuclear abstinence.

Thus, the long-term costs of according India nuclear-weapon status and opening nuclear reactor commerce to India outweigh the benefits. The burden should not be on exporters to amend global non-proliferation norms and rules for the sake of India; rather it is up to India to persuade the non-nuclear-weapon states that the rules should be changed. Even as many states may recognize that India developed nuclear weapons for its own national interests, and was not precluded by treaty obligations from doing so, nuclear technology exporters must support states that uphold the non-proliferation regime by not acquiring nuclear weapons.

Specific policy approaches for Israel and the Middle East

Recent events in Libya show that nuclear, biological and chemical weapon programmes can be eliminated in a major country in the Middle East without being conditioned on disarmament everywhere in the region. Iraq does also, though at tremendous cost. The United States and other interested parties must ensure that both countries gain significant improvements in security, political standing and international integration as a result of their relinquishing these weapons. The Libyan case is more straightforward and the United States, the United Kingdom and others already are implementing a

course of political and economic engagement with Libya. Iraq is immensely more difficult. In addition to the formidable problems of reconstructing the Iraqi state, the United States, the European Union and the United Nations must ensure that Iraq is sufficiently protected from external threats so that a future government is not tempted to restart unconventional weapons programmes.

To solidify Libyan and Iraqi disarmament, and to generate momentum from it, the United States and other major players need to develop a strategy for regional security and disarmament. The most pressing challenges are to prevent Iran from acquiring nuclear weapons and to persuade Israel to take immediate steps that will enhance the prospect of creating a zone free of weapons of mass destruction (WMD) in the Middle East. Arab states fear each other and Iran, while they variously detest or rely on the American military presence in the region. Iran fears Iraq and, related to it, the overwhelming American presence in the region. This knot of real and exaggerated security threats and status-seeking is pulled tighter still by Israel's undeclared nuclear-weapons status and by the continuing Israeli conflict with the Palestinians and with its neighbours.

Israel's nuclear capabilities provides a popular *political* pretext for potential Arab proliferation efforts. More pertinently, Israel's nuclear status undermines Egypt's and other Arab states' support of a non-proliferation regime that has failed to compel Israel to relinquish nuclear weapons. Jordan, the United Arab Emirates and other Arab states are key transit points for suspect exports/imports. The A.Q. Khan proliferation network, for example, operated through the United Arab Emirates and the full extent of its 'buyers' in the region is not publicly known. Arab states and Pakistan are politically less likely to devote resources and leadership to strengthen export and customs controls and intelligence cooperation with key NPT states and institutions like the IAEA if they feel that champions of the non-proliferation regime are not treating Israel on par with Muslim countries.⁷

A ZONE FREE OF WEAPONS OF MASS DESTRUCTION

Thus, even as the United States and others should press disarmament and non-proliferation objectives one state at a time, non-proliferation leaders also must act on an ambitious regional initiative. Key parties in the Middle East, including Israel, already have endorsed the objective of creating a zone free of WMD. This objective was reiterated in the 1995 decision by parties to extend the NPT indefinitely, and in UN Security Council resolution 687, which created UNSCOM to oversee the disarmament of Iraq after the 1991 war. At the 2000 NPT Review Conference the American representative offered that: 'Israel has stated that it is prepared to surrender its nuclear-weapons option in the context of a just, stable, and enduring Middle East peace. The US is making every effort we can to bring about such a peace, and we believe that once that is achieved, that Israel can and should join the NPT as a non-nuclear-weapons state.'⁸ Rather than defensively trying to ignore Israel's nuclear status, the United States and Israel should proactively call for regional dialogue to specify, negotiate and then implement the conditions necessary to achieve a WMD-free zone.

Many profound changes must be effected to achieve this goal, given the concern over the existence of chemical, biological and nuclear-weapons programmes and arsenals in the region. Yet, not long ago few imagined that in 2004 Iraq and Libya would be verifiably disarmed of WMD. To pursue a zone free of WMD in the Middle East, leading parties in the UN Security Council and the NPT review process should offer their good offices and commitments to provide economic and security assurances as necessary to facilitate the process. They should clarify certain threshold conditions for a serious process:

- All regional states and parties must recognize the existence and right to security of all other regional states and parties. This means all the Arab states, Iran and various armed sub-state groups must avowedly recognize Israel's right to exist, and Israel must recognize the right of existence, the statehood and the security of the Palestinians.⁹
- Negotiations can occur only among parties who recognize each other's legitimacy; negotiations to create a region-wide zone free of WMD must necessarily include all constituent parts of the region.

As a precursor to negotiations, friendly states and NGOs should conduct studies and dialogues exploring key material conditions that would have to be met for a treaty to be implemented. The following conditions appear indispensable:

- To persuade all parties that relinquishing all of their strategic weapons would not undermine their security, each must be highly confident that the others are fulfilling their commitments. This in turn requires robust verification procedures and practices. Technical expertise is necessary to design such procedures and practices. Non-official dialogues or joint projects by regional and international verification experts could be initiated to design verification mechanisms and to educate regional governments about undertakings they would eventually have to make in this regard. This will be an extremely difficult process given the complexities and sensitivities involved. Anyone serious about the objective should commit human and diplomatic resources now to begin designing verification mechanisms.
- Sufficient verification in turn will require high levels of transparency in national policies, budgets and facilities. Informal dialogues on security issues among well-briefed officials and non-officials from the region could build confidence that requisite transparency can be effected.
- Regional actors may gain confidence if major outside powers provide independent intelligence to help verify that parties are fulfilling their pledges. Current and/or former officials from the five permanent members of the Security Council could be encouraged to meet with regional actors to establish technical groups that could work in parallel as and when official negotiations on a zone free of WMD begin.

To impart momentum to this process, Israel, as the only state in the region with nuclear-weapon capability, should take initiatives:

- To augment disarmament momentum generated in Iraq and Libya, Israel should ratify the Chemical Weapons Convention it signed earlier, and should join the Biological Weapons Convention; and
- When and if confidence grows that Iran will permanently forego acquisition of capabilities to enrich uranium and separate plutonium, and that new norms and rules are in place preventing other states from acquiring bomb-fuel production capabilities, Israel should declare that it has adopted an indefinite moratorium on producing plutonium and ceased separation of plutonium from spent fuel and is prepared to make this permanent. The means to verify such a moratorium should be explored through the expert dialogue suggested above.

To help buttress the NPT, Israel should be encouraged to communicate to the 2005 NPT Review Conference that, if and when a regional zone free of WMD is verifiably implemented and proved durable, Israel would be prepared to join the NPT as a non-nuclear-weapon state.

Many of the steps outlined above will take considerable time. What should not be delayed is the public acknowledgement by the United States that Israel's nuclear status is a central problem that must be addressed.

TAKING DISARMAMENT SERIOUSLY

Article VI of the NPT obligates parties to ‘pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament.’ In 2000, this obligation was reaffirmed by an ‘unequivocal undertaking’ of treaty members ‘to accomplish the total elimination of their nuclear arsenals.’

Many officials in nuclear-weapon states think this commitment should not be taken seriously today. Much of the rest of the world recognizes this and hesitates to strengthen enforcement of non-proliferation because they believe that the nuclear-weapon states are not committed to disarmament. States that have given up programmes to produce nuclear weapons are particularly frustrated. Argentina, Brazil, Canada, Germany, Japan, South Africa and Sweden are among the influential countries that demand clearer commitments to disarmament to ensure their continued cooperation in non-proliferation efforts. Not only could these states someday choose to resume their own nuclear-weapon programmes, they are vital participants in making and enforcing the rules on which effective non-proliferation depends.

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Like it or not, the United States and the other nuclear-weapon states must address the disarmament issue more directly than they have in the past. This must include India, Israel and Pakistan, each of whose leaders in one fashion or another have committed to nuclear disarmament as a long-term proposition.

In the near term, the United States and other states that possess nuclear weapons should take four steps to comply with commitments the nuclear-weapon states made in 1995 when persuading the rest of the world to extend indefinitely the NPT:

- Disavow development of new types of nuclear weapons;
- Reaffirm the moratorium on nuclear-weapon testing and enable the entry into force of the Comprehensive Nuclear-Test-Ban Treaty;
- Narrow rather than widen the role of nuclear weapons in national security policies; and
- In the case of Russia and the United States, make irreversible and verifiable the nuclear reductions negotiated under the Moscow Treaty.

By complying with political obligations they undertook as part of NPT bargains, the established nuclear-weapons states would strengthen their capacity to persuade others to follow suit and to accept and enforce tougher non-proliferation rules.

More fundamentally, proponents and sceptics of nuclear disarmament must take the issue seriously enough to go beyond high-minded slogans and wrestle with the immensely difficult technical and political security challenges that must be overcome in order to eliminate nuclear arsenals.

To start this process, at the 2005 NPT Review Conference the nuclear-weapon states should urge the IAEA to request *all* states possessing nuclear weapons and/or stocks of fissile materials to produce white papers addressing the following questions:

- For states with nuclear weapons, what technical facilities, capabilities and procedures would be required to verifiably eliminate each nation’s nuclear arsenal and securely dispose of the fissile materials contained in them? What steps and resources would be required to implement full-scope safeguards in these states? Physically, how long would a phased dismantlement-disposition process take?

- What technologies and procedures would be necessary to allow international verification of nuclear disarmament while protecting sensitive weapon design or other information from being 'proliferated'?
- For all states possessing nuclear-weapon materials (including Israel), what is the national capacity to account for all fissile materials produced?¹⁰ Given that most of the acknowledged nuclear-weapon states do not have accurate records of their distant-past production of nuclear-weapon materials, what procedures or policies do states recommend to provide high confidence that no state is secreting away material or weapons while claiming to have eliminated its nuclear arsenal or never having possessed one in the first place?¹¹
- For all states with unsafeguarded fissile materials, what level of confidence would the state require in disarmament verification before it could verifiably dismantle the last nuclear weapon and/or put the last kilogram of fissile material under IAEA safeguards?
- Would the production of fuel for nuclear reactors, including plutonium separation, be feasible in a world without nuclear weapons? Would such production need to be managed differently? If so, why and how? What would be the cost implications for nuclear power generation?

Asking and answering these questions is a minimal way for states possessing nuclear weapons to demonstrate that they take their disarmament commitments seriously. Variations of these questions would have to be answered by individual states, the international community and the IAEA if and when the total elimination of nuclear arsenals were actually on states' agendas. The task is similar to that which South Africa undertook with the IAEA to verify the dismantlement of its nuclear arsenal and implement full-scope safeguards in the early 1990s. The white papers could be directed for submission to the IAEA Board of Governors (or an appropriate UN body); India, Israel and Pakistan as members of these organizations should be expected to produce such papers. Public versions of these papers should then be made available for analysis and debate by concerned citizens, NGOs and inter-governmental bodies that have an interest in these topics. The United Kingdom has set an important precedent for beginning such work.¹²

The international debate of these papers would raise appreciation of the challenge of implementing nuclear disarmament. Not only states with nuclear weapons, but all states that possess nuclear materials and related infrastructure would have to become more transparent. Gaps in accounting of nuclear-weapon materials would be inevitable, raising international security questions that are off the radar screen today. In short, expectations regarding the challenge and benefits of complete nuclear disarmament would receive the serious scrutiny they deserve.

The founders of the non-proliferation regime recognized that a dichotomous order of nuclear 'haves' and 'have nots' would be unstable over time. The obligations to pursue nuclear disarmament sprang from this understanding. If, upon examination, the challenge of eliminating the absolute last nuclear weapon is too fraught with uncertainty, too technically daunting, and too politically and economically demanding for the international community—and not just the nuclear-weapon possessing states—then an alternative basis must be found for stabilizing the nuclear order. This will require a shared understanding that expectations need to be adjusted.

Notes

1. T. Graham Jr. and A. Cohen, 2004, 'An NPT for Non-Members', *Bulletin of Atomic Scientists*, vol. 60, no. 3 (May/June), pp. 40–44.
2. These obligations are reflected in the Principles and Objectives agreed by NPT parties when they indefinitely extended the treaty in 1995, and in the Thirteen Steps agreed at the 2000 NPT Review Conference. India already

- has moved in this direction, as its Foreign Minister in 1999 declared that India supported NPT Articles I, II and VI. Israel could make this commitment without publicly acknowledging possession of nuclear weapons; it would commit simply to do as the other named states do.
3. 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.
 4. For a detailed analysis and policy agenda in this area, see R. Gottemoeller with R. Longworth, 2002, *Enhancing Nuclear Security in the Counter-Terrorism Struggle: India and Pakistan as a New Region for Cooperation*, Carnegie Working Paper no. 29, Washington, DC, Carnegie Endowment for International Peace, at < www.ceip.org/files/pdf/wp29.pdf > (accessed 11 May 2004).
 5. For outstanding recommendations on nuclear risk reduction, see M. Krepon, 2001, *Moving from MAD to Cooperative Threat Reduction*, Stimson Report no. 41, Washington, DC, Henry L. Stimson Center, at < www.stimson.org/southasia/pdf/MADtoCTR.pdf > (accessed 27 April 2004).
 6. See, for example, M. Krepon and Z. Haider (eds), 2004, *Reducing Nuclear Dangers in South Asia*, Stimson Report no. 50, Washington, DC, Henry L. Stimson Center, at < www.stimson.org/southasia/pubs.cfm?ID=92 > (accessed 28 April 2004). See also reports by the Kashmir Study Group, at < www.kashmirstudygroup.com > (accessed 28 April 2004) and the International Crisis Group, at < www.crisisweb.org/home/index.cfm?id=1268&l=2 > (accessed 28 April 2004).
 7. For example, one of the grievances cited by Al-Qaeda's strategist, Ayman Al-Zawahiri, is that 'the Americans and the Jews' have weakened Egypt and other Muslim states 'through signing peace agreements and treaties that ban weapons of mass destruction for us only, disarming Sinai, and allowing direct US occupation of our land and holding joint military exercises.' Ayman Al-Zawahiri, 2001, *Knights Under the Prophet's Banner, Al-Sharq Al-Awsat* (London), at < www.fas.org/irp/world/para/ayman_bk.html > (accessed 11 May 2004).
 8. N. Wulf, 2000, interview with Ralph Dannheisser, 21 April, at < hongkong.usconsulate.gov/uscn/wh/2000/042101.htm > (accessed 27 April 2004). In speaking of Israel's 'nuclear-weapons option', this American statement acknowledged this capability more starkly than Israel ever has. Secretary of State Colin Powell reaffirmed at a press briefing that 'it has always been U.S. policy that we would like to see that whole region free of weapons of mass destruction.' C. Powell, 2003, 'Foreign Press Center Briefing', remarks in Washington, DC, 15 April, at < www.state.gov/secretary/rm/2003/19662.htm > (accessed 6 May 2004).
 9. The chemical and biological weapon conventions (the CWC and BWC) conclude that there is no legitimate basis for possessing these weapons. The greatest and perhaps only legitimate ground for possessing nuclear weapons is to deter threats to the existence of the possessing state or its allies. It is not surprising, then, that a state facing adversaries that reject its right to exist would perceive an existential threat and not sign or implement agreements requiring it to forego acquisition of the sort of strategic deterrence that nuclear weapons may provide. Even if such a deterrent is not militarily necessary, relinquishing such a deterrent may be politically impossible in the face of existential threats.
 10. As Israel does not admit having nuclear weapons, it would comply with its obligation to contribute to non-proliferation by explaining how it could secure and account for its fissile materials.
 11. The United Kingdom admirably has taken the commitment to nuclear disarmament seriously enough to commission official assessments of how it might be accomplished. According to an official report by its Ministry of Defence, 'the Government does not believe that it will ever be possible for any of the relevant States to be able to account with absolute accuracy and without possibility of error or doubt for all the fissile material they have produced for national security purposes.' This conclusion appears plausible not only for the United Kingdom and raises questions that must be addressed to assess the meaning and feasibility of securely and verifiably eliminating all nuclear arsenals. See United Kingdom, Ministry of Defence, 2003, *A Summary Report by the Ministry of Defence on the Role of Historical Accounting for Fissile Material in the Nuclear Disarmament Process, and on Plutonium for the United Kingdom's Defence Nuclear Programme*, September, at < www.mod.uk/publications/nuclear_weapons/accounting.htm > (accessed 27 April 2004).
 12. United Kingdom, 2003, *Verification of Nuclear Disarmament: First Interim Report on Studies into the Verification of Nuclear Warheads and Their Components*, Working Paper submitted by the United Kingdom of Great Britain and Northern Ireland to the Preparatory Committee for the 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, 23 April 2003, at < www.awe.co.uk/Images/n0333117_tcm6-1769.pdf > (accessed 27 April 2004).