

U.S.-Russia Strategic Partnership against Nuclear Proliferation

From Declaration to Action

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JULY 2008



EUROPE, RUSSIA, AND THE UNITED STATES
FINDING A NEW BALANCE



CSIS | CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES

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Contents

Preface	iv
Enforcing UNSC Resolutions on Iran	3
Addressing Cases of Noncompliance with IAEA Safeguards Agreements	7
Improving Security of Supply and Avoiding the Spread of Sensitive Technologies	9
Strengthening NSG Export Criteria	12
Preparing the 2010 NPT Review Conference	14
Conclusion	18
Annex I. Nuclear Cooperation Agreements Recently Concluded between NWSs and NNWSs	19
Annex II. IAEA Fuel Bank and Generic Export License	21
Annex III. NSG Export Criteria for Non-NPT States	22

Preface

The joint CSIS/IFRI project “Europe, Russia, and the United States: Finding a New Balance” seeks to reframe this trilateral relationship for the relevant policymaking communities. We are motivated by the possibility that new opportunities may be emerging with leadership changes in Moscow and Washington. In particular, we hope that our analyses and recommendations will be useful as France takes over the chair of the European Union on July 1, 2008.

The title of the project reflects our sense that relations among Europe, Russia, and the United States have somehow lost their balance, their equilibrium. The situations of the key actors have changed a great deal for a variety of reasons, including but not limited to the wars in Afghanistan and Iraq, the expansion of NATO and the European Union, and the unexpectedly rapid economic recovery of Russia. At a deeper level, we find ourselves somewhat perplexed that nearly 20 years after the collapse of the Berlin Wall and the subsequent conclusion of the Cold War relations among Europe, Russia, and the United States seem strained on a multitude of issues. In Berlin in June 2008, President Dmitri Medvedev of Russia invoked the language articulated 15 years earlier by then-Presidents Bill Clinton and Boris Yeltsin about “unity between the whole Euro-Atlantic area from Vancouver to Vladivostok.” Despite many achievements over the past 15 years, it is hard not to conclude that collectively we have underachieved in building greater trust and cooperation. We are convinced that, for enhanced European as well as global security, we must increase the level of trust and cooperation among the transatlantic allies and Russia and that this cooperation must rest on a firm economic and political grounding.

We humbly acknowledge that we have no “magic bullet,” but we hope that the series of papers to be published in the summer and fall of 2008 as part of this project may contribute to thinking anew about some of the challenging issues that we in Europe, Russia, and the United States collectively face. We are very grateful to the excellent group of American, European, and Russian authors engaged in this task: Pierre Goldschmidt, Thomas Graham, Rainer Lindner, Vladimir Milov, Dmitri Trenin, and Julianne Smith. We also want to thank Keith Crane, Jonathan Elkind, Stephen Flanagan, James Goldgeier, Stephen Larrabee, Robert Nurick, Angela Stent, and Cory Welt, participants in the workshop held on May 16, 2008, in Washington, D.C., for their rich and thoughtful comments about the papers and the project. Finally, we want to thank Amy Beavin, research associate of the Russia and Eurasia Program at CSIS and Catherine Meniane and Dominic Fean of the Russia/NIS Center at IFRI for their indispensable support in making all aspects of the project a reality.

This project is the continuation of the IFRI/CSIS transatlantic cooperation started in 2006. We would like to thank warmly our financial supporters—France Telecom, the Ryan Charitable Trust, and particularly the Daimler **Fonds**.

By publishing some articles in Russian, *Russia in Global Affairs* will also take part in this project.

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U.S.-RUSSIA STRATEGIC PARTNERSHIP AGAINST NUCLEAR PROLIFERATION

From Declaration to Action¹

Pierre Goldschmidt²

There are presently clear indications that we are about to see a revival of nuclear energy worldwide. It is important to make this expansion of nuclear energy for the production of electricity and desalinated water as safe and secure as possible. In the coming decade, however, the rate of this expansion will be limited by several factors: in some recipient states, by the lack of an adequate industrial infrastructure, or an insufficient nuclear safety culture with a truly independent control organization; and in supplier states, by a limited capacity to produce certain types of nuclear equipment, such as reactor vessels.

Since there's no rush, we have time to "do" nuclear right. Doing it right means, in particular, putting stronger barriers to proliferation in place before, not after, new nuclear capabilities spread.

Of particular concern is that some of the nonnuclear-weapon states (NNWS) that have recently indicated interest in acquiring nuclear power plants (NPP) seem to be motivated by geopolitical considerations as much as by economic or environmental factors.

It is also worrisome to see supplier states, in particular Russia, France, the United States, and to a lesser degree China—that is, four nuclear-weapon states (NWS)—offering to supply NPPs, research reactors, and other services to countries where starting an electro-nuclear program now does not necessarily appear to be the best or most pressing option. It would appear that these supplier states may increasingly be tempted to use nuclear cooperation with nonaligned states as one of their geopolitical tools, as is often the case with arms sales.

This strategy is likely to bear fruit, because some developing countries wrongly perceive nuclear energy to be a status symbol.³ The recent increase of interest in nuclear energy can of course be attributed in part to the high price of oil, but it is no coincidence that it comes after two well-

¹ This paper, dated May 6, 2008, is part of a project entitled "Europe, Russia, and the United States: Finding a New Balance," jointly sponsored by the Center for Strategic and International Studies (CSIS) in Washington, D.C., and the Institut Français des Relations Internationales (IFRI) in Paris, France.

² Nonresident senior associate at the Carnegie Endowment for International Peace and former deputy director general of the International Atomic Energy Agency, head of the Department of Safeguards.

³ Does anyone believe that Belgium, for instance, has a greater international status because 55 percent of its electricity is produced by seven NPPs or that Austria would have a higher status if it produced nuclear electricity?

publicized events: first the discovery that Iran has been working for two decades on an undeclared nuclear program and refuses to suspend the construction of a uranium enrichment plant at Natanz (and a heavy-water research reactor at Arak) in defiance of United Nations Security Council (UNSC) resolutions; and second, U.S. president George W. Bush and Indian prime minister Manmohan Singh's issuance of a Joint Statement on July 18, 2005, announcing the decision to initiate a civilian nuclear cooperation agreement, which is not consistent with the spirit⁴ of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Since then, as stated by Robert Einhorn in April 2006,

Russia, which a year ago said it couldn't provide nuclear fuel to India's Tarapur reactors because of its Nuclear Suppliers Group [NSG] obligations, recently sent a large fuel shipment to those reactors, arguing (over the objections of most NSG members) that it was entitled to do so under the NSG's "safety exception."⁵

At the same time China and Pakistan have begun discussing additional reactor sales.

There is strong evidence that, over the last couple of years, Russia and France, but also the United States and China, have been competing to conclude nuclear cooperation agreements worldwide (see annex I).

It is clear that none of these supplier states wish to see nonnuclear-weapon states acquiring nuclear weapons and therefore have a common interest in making sure that this does not happen. The objective is to find a way for these nuclear-supplier nations, which are competing for geopolitical influence, in particular in the Middle East, to agree on measures essential to contain nuclear proliferation and to avoid using more or less stringent bilateral nonproliferation requirements as a tool for giving the supplier states' domestic industries a competitive advantage.⁶

Russia and the United States in particular will have to play a central and positive role in strengthening the credibility of the nonproliferation regime.

On April 6, 2008, the United States and the Russian Federation issued a Strategic Framework Declaration, whereby they commit to "consult closely on the development of initiatives that will serve our common interest." Four main areas of common interest are identified in the declaration: promoting security, preventing the spread of weapons of mass destruction (WMD), combating global terrorism, and strategic economic cooperation.

⁴ Under the U.S.-India deal, India would get all the benefits of nuclear cooperation that are reserved to NNWSs joining the NPT while not committing to the disarmament undertakings by NWSs under the treaty.

⁵ Statement by Robert J. Einhorn, senior adviser, CSIS, before the Senate Foreign Relations Committee, April 26, 2006.

⁶ In particular, the NSG safety exception should be well defined: no export should take place to a NNWS that has no Additional Protocol in force; and all sensitive fuel-cycle facilities should be under International Atomic Energy Agency (IAEA) safeguards that do not end if the state withdraws from the NPT.

Concerning the second topic, which is focused on preventing the spread of nuclear weapons, the Strategic Framework Declaration identifies 14 issues on which Russia and the United States intend to cooperate. This is a very positive development, but as is well known, the devil is in the detail, especially when it comes to agreeing on concrete actions.

The present analysis has identified five areas (among many others) where the United States, Russia, and the European Union should closely cooperate in order to strengthen the nonproliferation regime:

1. Enforcing UNSC resolutions on Iran
2. Addressing cases of noncompliance
3. Improving security of supply and discouraging the spread of sensitive technologies
4. Strengthening NSG export criteria
5. Preparing the 2010 NPT review conference

Enforcing UNSC Resolutions on Iran

Although it is obviously not in Russia's interest to see Iran achieve a nuclear-weapons capability, it has so far opposed the adoption of harsh sanctions by the UNSC. One of the reasons is that Russia wishes to enhance its presence and influence in the Persian Gulf and the Middle East. As indicated by Mark Smith,⁷ Moscow sees the region as a lucrative market for Russian goods and wants to attract investment from the region in Russia. President Vladimir Putin's visits in 2007 to Saudi Arabia, Qatar, Jordan, and Iran are a clear indication of this strategy. It appears aimed at enhancing Moscow's relationship with the Muslim world, Sunni and Shi'ite alike.⁸ These diplomatic activities are part of the Russia-U.S. rivalry in the region, at a time of Muslim discomfort with U.S. policy in Iraq and beyond. They likely take into account the increasing proportion of Russia's own Muslim population.

In Iran, Russia wishes to take advantage of the void left by the United States for almost three decades and has no interest in antagonizing Tehran. Quite the contrary: Russia has indicated its interest in forming a gas cartel with Iran (and Qatar). Iran is also a key player in resolving the issue of the legal status of the Caspian Sea, which is pending since the dissolution of the Soviet Union and the independence of three new riparian states: Azerbaijan, Kazakhstan, and Turkmenistan.⁹

⁷ Mark A. Smith, *Russia and the Persian Gulf: The Deepening of Moscow's Middle East Policy* (Swindon: Conflict Studies Research Centre, Defence Academy of the United Kingdom, August 2007).

⁸ Putin also visited Indonesia in September 2007, becoming the first Russian leader to do so in more than 50 years.

⁹ One important issue is that Russia claims that a consensus of the five riparian states is required for the construction of undersea pipelines, while Azerbaijan, Kazakhstan, and Turkmenistan consider that only the agreement of the state through which the pipeline passes is required.

It is therefore no surprise that Russia opposes harsh UNSC sanctions against Iran while saving face by regularly criticizing Tehran for its lack of cooperation with the International Atomic Energy Agency (IAEA), its defiance of UNSC resolutions, and its rejection of Russian proposals to resolve the crisis (including participation in the Angarsk uranium enrichment plant).

President Putin, in his speech at the 43rd Munich Conference on Security Policy in February 2007 made it very clear that “the use of force can only be considered legitimate if the decision is sanctioned by the UN. And we do not need to substitute NATO or the EU for the UN.” This was obviously not only a reference to the 1999 NATO intervention in Kosovo (and the 2003 U.S.-UK military intervention in Iraq), but also a clear, if thinly veiled, reference to possible U.S. military action against Iran.

Notwithstanding this official position, Russia may well be relying on its confidence that neither the United States nor Israel will tolerate Iran’s getting too close to a nuclear-weapons capability. In fact, some Russians have indicated in private that it would be a good thing if the United States would bomb Iran’s sensitive nuclear facilities.¹⁰ This might appear to be a very cynical but plausible calculation. Indeed, if such a scenario were ever to occur, blame would almost certainly be heaped on the United States and Israel by all the states in the region and probably beyond. The consequences could be dramatic and devastating for everyone, except possibly for Russia, which would benefit from an inevitable huge increase in oil prices. It might even accelerate the political comeback of Russia (e.g., as a mediator) in the Middle East, which appears to be one of its objectives.

It is very important for the United States and the European Union to make every reasonable effort to avoid such a catastrophic scenario, without letting Iran freely defy legally binding UNSC resolutions while steadily building a nuclear-weapons capability. The November 2007 U.S. National Intelligence Estimate (NIE) report on Iran has, for the time being, pushed aside the risk of a U.S. military intervention in Iran, and this should open the way for better cooperation with Russia on a diplomatic resolution of the Iranian issue.

China has also been reluctant to approve harsh sanctions against Iran. However, if Russia could be convinced of the necessity to increase pressure on Iran, and of the merit of a UNSC resolution suspending all military cooperation with Iran, it is unlikely that China would exercise its veto right. What China wishes above all is to avoid a crisis in the region that would send oil prices skyrocketing.

As highlighted in particular by President Putin’s visit to Tehran on October 16, 2007 (the first such high-level visit to Iran since Joseph Stalin’s in 1943), where he met both Ayatollah Khamenei and President Mahmoud Ahmadinejad, it will no doubt be extremely difficult to obtain Russia’s support for a full arms embargo on Iran, not only because it is an important market for

¹⁰ A former Kuwaiti government adviser has suggested that the destruction of Iran’s nuclear capabilities would be in the interest of the Arab nations in the Gulf, but that a strike by Israel would be less embarrassing for the Gulf Cooperation Council (GCC) than one carried out by the United States.

Russia but also because supporting Iran militarily is likely seen as a counterweight to U.S. hegemonic aspiration and military presence in the region.¹¹ Russia, and others, could object that such an embargo might push Iran to increase its support of terrorist activity, of Hezbollah and Hamas, and of instability in Iraq and provide the best justification for Iran to seek a nuclear-weapons capability.

This clearly points to the necessity for the United States to provide Iran with credible security guarantees, at least as strong as those provided to North Korea. This would imply, in turn, direct negotiations between the United States and Iran. Such negotiations should take place initially in great secrecy and without any preconditions.

Obtaining Russia's support will require that the United States take the steps necessary to accommodate Russia's concerns about its own priority security interests, such as the U.S. missile defense in Eastern Europe¹² and the possible "roadmap" for Ukraine and Georgia becoming members of NATO.¹³

Suspending the installation of a new radar system in the Czech Republic and interceptor missiles in Poland (and agreeing on an alternative in the meantime, such as a joint U.S.-Russia system) in exchange for the suspension of Russian military cooperation with Iran would appear to make a lot of sense.¹⁴

The European Union, under French presidency, should support with one voice such a possibility notwithstanding the fact that NATO has recently backed such a missile defense project. This might help the next U.S. president to reconsider the issue if Russia, for its part, indicates its readiness to compromise on Iran and other security matters.

Supporting a decision by the UNSC to require suspension of all military cooperation with Iran would be a logical next step. The Security Council has adopted three resolutions on Iran under Chapter VII of the UN Charter, which is an implicit recognition that Iran's previous noncompliance with its safeguards agreement, lack of transparency, and limited and reactive (not proactive) cooperation with the IAEA, pose a threat to international peace and security. In these

¹¹ In his February 2007 speech in Munich, President Putin made abundantly clear how much he rejects, as undemocratic, the aspiration or concept of a unipolar world, which can only lead to an uncontained use of military force in international relations.

¹² Whether this limited missile defense project can be a real security concern for Russia is often questioned, but what is acknowledged is Russia's deep suspicion that it might be the first step of a broader U.S. missile defense strategy and architecture that will be developed in the next 20 years.

¹³ This issue is analyzed in Dmitri Trenin, *Toward a New Euro-Atlantic "Hard" Security Agenda: Prospects for Trilateral U.S.-EU-Russia Cooperation* (Washington, D.C.: CSIS, forthcoming).

¹⁴ This would be a major concession to Russia, especially since Deputy Foreign Minister Alexander Losyukov voiced concern after Iran test fired, on February 4, 2008, a rocket said to be used for launching research satellites into space. Losyukov was quoted as saying that "it adds to general suspicions of Iran regarding its potential desire to build nuclear weapons," and Col. Gen. Viktor Yesin, former chief of staff of the Russian Strategic Missile Forces, stated that Iran is close to possessing long-range missiles with a range of 3,500 to 4,000 kilometers or more.

circumstances it would be legitimate for the UNSC to require member states not to supply any kind of weapons to such a state. Also, the merit of this kind of sanction is that it does not impact negatively on the well-being of the population but, in conjunction with appropriate incentives, can possibly incline the country's leaders to adopt a more conciliatory attitude. In UNSC Resolution 1747 on Iran, acting under Chapter VII of the UN Charter, the Security Council "*calls upon all States to exercise vigilance and restraint in the supply, sale or transfer directly or indirectly...of any battle tanks, armoured combat vehicles, large caliber artillery systems, combat aircraft, attack helicopters, warships, missiles or missiles systems...in order to prevent a destabilizing accumulation of arms*" (emphasis added).

This wording is in no way as strong as the one used in UNSC Resolution 1718 (October 2006) on the Democratic Peoples Republic of Korea (DPRK), which states that the Security Council "*decides that all Member States shall prevent the direct or indirect supply, sale or transfer...*" of a list of weapons materials, equipment, goods and technology (emphasis added). The softer and ambiguous wording adopted for Iran is apparently allowing Russia to carry out its commitment to supply Iran with Tor M-1 surface-to-air missile systems and is unlikely to deter continued military cooperation with Iran.

It is also of paramount importance for the credibility of the nonproliferation regime that a country that has violated its safeguards agreement not be allowed to defy UNSC Chapter VII resolutions without significant and increasing consequences. In this regard, Russia could be reminded of President Putin's speech of February 2007 in Munich where he strongly and rightfully criticized "a greater and greater disdain for the basic principle of international law."

It is not enough, as stated in the Strategic Framework, to reiterate the necessity for Iran to comply with IAEA and UNSC resolutions; it must be enforced. So far diplomacy has failed. Tehran has rejected the P5+1 proposal of June 2006 and has rejected Russia's offer to participate in its uranium enrichment joint venture at Angarsk.

It would be important for Russia to admit publicly that it shares the conclusion of the NIE November 2007 report that at least until the fall of 2003 Iran was indeed working on a nuclear weapons program. This, by itself, would increase the pressure of the international community on Iran for suspending its enrichment-related activities (and the construction of the heavy water research reactor at Arak). Such an admission might be easier for President Dmitry Medvedev since then-President Putin, at a press conference with Nicolas Sarkozy, in October 2007, stated "We have no information to show that Iran is striving to produce nuclear weapons. We have no objective data to this effect, and so we proceed from the premise that Iran has no such plans." Considering the close and long-time cooperation of Russia with Iran in the nuclear and military fields, Russia should know better than any other state what has been going on in Iran. It has been reported recently in the media that China has provided the IAEA with some intelligence information on Iran's nuclear activities. This is a welcome development that does not appear so far to have been emulated by Russia.

It is important to recall that in all three resolutions on Iran (1737, 1747 and 1803), the UNSC has reaffirmed that: “it shall suspend the implementation of measures [i.e., sanctions] if and for so long as Iran suspends all enrichment-related and reprocessing activities, including research and development, as verified by the IAEA, to allow for negotiations in good faith in order to reach an early and mutually acceptable outcome” and that the UNSC shall terminate the sanctions as soon as it determines that Iran has fully complied with its obligations.

One point remains vague in the three UNSC resolutions: in the (unlikely) event that Iran agrees to suspend, as required, all enrichment-related and reprocessing activities and the work on all heavy water related projects, how long would that suspension have to last? Also, would it be to Iran’s benefit if it were to admit, as Libya did, that it had a nuclear-weapons program and has decided to abandon it?

These and related questions could be the subject of secret discussions with Russia, other major players, and Iran, in order to find a fair compromise that would comply with the NPT, the spirit of UNSC resolutions and Iran’s legitimate interests. Obviously, this is not the place to suggest what such a compromise might look like since making it public would kill any chance of success.

While pursuing the resolution of this most difficult issue, it would be useful, in parallel, to engage Russia, China, and other members of the UN to consider, based on the lessons learned in Iraq, DPRK, Libya, and Iran, what practical measures should be taken to strengthen the nonproliferation regime, independent of any specific case.

The following suggestions might be considered useful as a follow-up of the Strategic Framework Declaration.

Addressing Cases of Noncompliance with IAEA Safeguards Agreements

Experience with both North Korea and Iran has shown that, in order to conclude in a timely manner that there are no undeclared nuclear material or activities in a state as a whole, after a state has been found by the IAEA to be deliberately in noncompliance with its safeguards undertakings, the agency needs verification rights extending beyond those of the Comprehensive Safeguards Agreement and Additional Protocol.

Acknowledging this, the director general, in his report of September 2, 2005 to the IAEA Board of Governors (GOV/2005/67) has made very clear that “Given Iran’s past concealment efforts over many years, such transparency measures should extend beyond the formal requirements of the Safeguards Agreement and Additional Protocol and include access to individuals, documentation related to procurement, dual use equipment, certain military owned workshops and research and development locations. Without such transparency measures, the Agency’s ability to [...] verify the correctness and completeness of the statements made by Iran will be restricted.”

More than two years later, the director general reported to the IAEA Board (GOV/2007/58-November 15, 2007) that “Bearing in mind the long history and complexity of the [Iranian] programme and the dual nature of enrichment technology, the Agency is not in a position, based on the information currently available to it, to draw the conclusion about the original underlying nature of parts of the programme.”

In “agency speak,” this means that this enrichment program could have been initiated (and may still be, at least in part) for military purposes.

Therefore, drawing the lesson from this experience it is suggested that the most effective, unbiased, and feasible way to establish a legal basis for the necessary verification measures in circumstances of noncompliance is for the UNSC to adopt (under Chapter VII of the UN Charter) a generic and legally binding resolution stating that if a state is reported by the IAEA to be in noncompliance, the following actions would result.

First, if requested by the IAEA, the UNSC would automatically adopt a specific resolution (under Article 41 of the UN Charter) making it mandatory for the noncompliant state to provide the agency with the necessary additional verification authority. Areas in which the verification authority should increase would include assurance of prompt access to persons, broader and prompter access to locations, in situ access to original documents and copies thereof, broader and faster access to information, and the lifting of other types of restrictions, which experience has shown can be employed as obstructive tactics. Such authority would last until the agency concludes that there is no undeclared nuclear material and activities in the state and that its declarations to the agency are correct and complete.

Second, the noncompliant state would have to suspend all sensitive nuclear fuel-cycle activities at least until the IAEA draws the conclusion that the state declarations on its past and present nuclear-related activities are correct and complete. The noncompliant state would, however, have the right, under certain conditions, to continue the operation of its NPPs. One of these conditions would be to submit all nuclear facilities to INFCIRC/66-type safeguards agreements, so that they would legally remain under IAEA safeguards in case the noncompliant state withdraws from the NPT.

From 1993 on, North Korea was continuously found by the IAEA to be in noncompliance with its safeguards agreement. It withdrew from the NPT in January 2003 and tested a nuclear device in October 2006. The UNSC did not react until then. We must by all means avoid a repetition of this unfortunate chain of events.

As has been stressed on many occasions, the great benefit that the NPT brings to the international community would be dangerously eroded if countries violating the treaty or their safeguards

agreements “felt free to withdraw from it, develop nuclear weapons and enjoy the fruits of their violation with impunity.”¹⁵

To address this issue, the UNSC should adopt (under Chapter VII of the UN Charter) another generic and legally binding resolution stating that if a state withdraws from the NPT (an undisputed right under its Article X) *after* being found by the IAEA to be in noncompliance with its safeguards undertakings, then such withdrawal constitutes a threat to international peace and security as defined under Article 39 of the UN Charter. This generic resolution should also provide that under these circumstances, all materials and equipment made available to such a state or resulting from the assistance provided to it under a Comprehensive Safeguards Agreement would have to be forthwith removed from that state under IAEA supervision and remain under the agency’s safeguards.

A prerequisite for these proposals to be approved by the UNSC is to have the support of the five permanent members of the UN Security Council. Since President Putin has stated “We are unequivocally in favour of strengthening the regime of non-proliferation,”¹⁶ one could hope that Russia would support these generic and “state-neutral” measures, which would, of course, have no retroactive effect. The European Union, under French presidency, should bring such proposals to the attention of the UNSC.

Improving Security of Supply and Avoiding the Spread of Sensitive Technologies

As mentioned above, since we are about to see a revival of nuclear energy worldwide for the production of electricity and desalinated water, it is most important to make this expansion as safe and secure as possible and to put stronger barriers to proliferation in place before, not after, new nuclear capabilities spread.

The international community, too often, has the unfortunate tendency of waiting for a crisis to occur before taking corrective actions instead of drawing the lessons from previous crises and taking appropriate preventive measures in order to diminish the risk of their reoccurrence. The international community knows what should and can be done to diminish the risk of nuclear proliferation. It needs to act now.

The IAEA is generally considered to be in a position to provide adequate assurances that there is no diversion of nuclear material from NPPs and that there are no undeclared nuclear materials and activities in any country that does not have sensitive nuclear fuel-cycle facilities¹⁷ and a

¹⁵ NPT/CONF.2010/PC.I/WP22-3, May 2007.

¹⁶ Cf. footnote 10.

¹⁷ Essentially uranium conversion and enrichment facilities, irradiated fuel-reprocessing plants, and plutonium conversion and fabrication facilities.

Comprehensive Safeguards Agreement (CSA) and Additional Protocol (AP) in force with the agency.¹⁸

In contrast, the agency's ability to provide the necessary assurances in a country that operates sensitive nuclear fuel-cycle facilities is limited, in particular if the country has not ratified the Additional Protocol. In order to address this concern and minimize the corresponding risks, the spread of sensitive fuel-cycle facilities should be discouraged.

There is very little economic incentive for a nonnuclear-weapon state to design, develop, and construct domestically uranium enrichment or reprocessing plants, because these plants cannot be economically competitive without the support of foreign technology holders.

To further minimize any incentive to build such facilities domestically, it is necessary to provide the strongest possible guaranty of a secure supply of nuclear fuel. Even though the nuclear fuel-cycle industry is an oligopoly, there is not a single example in history where a state that had a CSA in force had to close down an electrical NPP because it was denied the delivery of fresh fuel assemblies.

Iran, which had been the subject of a nuclear embargo from the West after the revolution of 1979, has expressed the concern that the delivery of fuel assemblies to its NPPs could be suspended or denied by a supplier for purely political reasons and that it therefore had to develop a domestic uranium enrichment capability. Although the likelihood that all suppliers would deny such fuel deliveries is small, this concern must be addressed seriously. One suggested solution is to construct and operate multinational facilities, in particular enrichment plants, in which the customers would also be shareholders, but without access to the technology.

In 2006 Russia launched such a facility—the International Uranium Enrichment Center (IUEC) at Angarsk—in collaboration with Kazakhstan, Ukraine, and Armenia. South Korea and Mongolia have been reported to have a possible interest in joining the project, and it is open to other participants and in particular to Iran, which has shown no interest so far. Russia will eventually retain 51 percent of the shares. In February 2007, the IUEC was entered on the list of Russian nuclear facilities eligible for IAEA safeguards implementation.

The IUEC project is not fundamentally different from the French Eurodif enrichment joint venture established in the late 1970s, with foreign shareholders (Belgium, Italy, and Spain) including Iran.¹⁹ Notwithstanding the merits of such a concept, these multilateral facilities do not address the real issue, which is the guarantee that the exporting state will not interrupt supply by denying or materially delaying the necessary export license.

¹⁸ To be more precise, these assurances would require those states not to have in place a so-called Small Quantities Protocol and to have made a legally binding commitment to provide early design information to the agency on any new facility.

¹⁹ Iran owns 40 percent of the shares of SOFIDIF, which in turn owns 25 percent of the capital of EURODIF.

The ultimate guaranty against such an occurrence is for the IAEA to own a fuel reserve (sometime called a “fuel bank”) that would be used to provide fuel assemblies to any country that is denied fuel delivery for purely political reasons. Such a fuel reserve, to be effective, should be operated under the following three conditions:

- The IAEA low-enriched fuel reserve should, for practical reasons, be physically located—in the form of uranium hexafluoride (UF₆)—at some, if not all, commercial enrichment plant sites.
- The agency should conclude contracts with all manufacturers of fuel assemblies to assure the agency’s access, in case of necessity, to some fabrication capacity.
- Countries where the fuel bank and the fabrication plants are located should grant the IAEA a generic (or *a priori*) export license, subject to the IAEA confirming that a number of objective and well-defined safety, security, and nonproliferation conditions have been met by the recipient state (cf. Annex II) and that this state does not possess domestic sensitive fuel-cycle facilities.

Russia has announced that 160 tons of low-enriched uranium (LEU) hexafluoride (equivalent to six reloads of a 1000 MWe reactor) will be held at the IUEC as a fuel bank under IAEA control and “available at IAEA discretion.”²⁰ The U.S. government, for its part, in addition to the conditional \$50 million already offered in September 2006 by the Nuclear Threat Initiative (NTI), has pledged, in December 2007, \$50 million to support the establishment of an IAEA fuel bank. It had previously earmarked 17.4 MT of excess highly enriched uranium (HEU) from its defense programs to be down-blended to LEU as a contribution to the IAEA fuel bank. Under normal IAEA practice, such commitments should now be translated into formal agreements between the supplier states (Russia and the United States, respectively) and the IAEA specifying under which conditions the material would be made available to the recipient state.

In February 2008, the Norwegian government pledged \$5 million to the IAEA fuel bank, but as of today the fuel bank is still not operational. The EU, with four states having commercial enrichment plants, is in a good position to take the lead and have the process started.

Independently, suppliers of NPPs should also consider the merit of leasing the fresh fuel assemblies required for the lifetime operation of the NPPs and of taking back the spent fuel (possibly in exchange for an equivalent quantity of well-conditioned high-level vitrified wastes) as an incentive for the recipient state not to set up domestic enrichment and reprocessing facilities.

Here again, Russia has taken the lead. So far it is the only country that has adapted its national law in order to be in a position to take back spent fuel assemblies of Russian (and possibly foreign) origin. The delivery of fresh fuel elements for the Bushehr NPP in Iran was made

²⁰ “Nuclear Power in Russia,” World Nuclear Association, May 2008, <http://www.world-nuclear.org/info/inf45.html>.

conditional on Iran committing to send back the spent fuel to Russia, thereby significantly diminishing if not eliminating the risk that the plutonium contained therein could be recovered by Iran. What is not known are the other export conditions required by Russia, for instance in case Iran were to withdraw from the NPT or unilaterally suspend or limit the implementation of its CSA with the IAEA.

This brings us to the question of NSG export criteria.

Strengthening NSG Export Criteria

Among the 14 subjects specifically mentioned in the April 2008 U.S.-Russia Strategic Framework Declaration for preventing the spread of weapons of mass destruction (WMD), there is no mention of the Nuclear Suppliers Group (NSG). This is not simply an oversight and should be a matter of concern.

Over the last three to four years, NSG members have adopted improved export guidelines and have considered further measures to control exports of sensitive facilities, technology, and material. In February 2006, the NSG adopted guidelines (NFCIRC/254/Rev.8/Part1) stipulating that “suppliers should encourage recipients to accept, as an alternative to national plants, supplier involvement and/or other appropriate multinational participation in resulting facilities,” and that suppliers should also promote multinational regional fuel-cycle centers.

In the same document it is also stated that suppliers “should make every effort to support the IAEA [...] and to support appropriate initiatives aimed at improving the effectiveness of IAEA safeguards.” Interestingly, this document has been approved by Argentina and Brazil, which are the only two countries among the 45 members of the NSG that have not yet signed²¹ the AP, which is considered by the IAEA as essential to improve the effectiveness of safeguards.

This explains why no consensus has thus far been reached on the necessity for any recipient state to have a CSA and an AP in force before sensitive fuel-cycle technology can be transferred to that state. It is more than time—above all for the United States, but also for Brazil and Argentina, which have uranium enrichment activities—to take a more responsible and coherent approach with regard to both NSG and IAEA commitment to improve the effectiveness of IAEA safeguards and therefore to sign and ratify the AP.

For decades, the United States has been the leader in promoting strengthened NSG export criteria. It has been reported recently,²² however, that the White House has objected to stricter conditions for authorizing the transfer of enrichment and reprocessing equipment and technology, at least in part because these conditions cannot be met by India. This is a very unfortunate development that must be reversed.

²¹ Belarus and the United States have signed but not yet ratified the AP.

²² Mark Hibbs, “NSC prepares to set specific conditions for lifting of sanctions against India,” *Platts NuclearFuel* 33, no. 2 (January 14, 2008).

Instead of approving an arbitrary exception for the undefined “special case of India,” the NSG (and in particular its European members) should consider the merit of adopting objective criteria applicable for the export of nuclear material and equipment to any non-NPT State. A concrete proposal is made in Annex III.

Under the U.S.-India Agreement, India would be free to further develop its nuclear-weapons program²³; it would receive from the United States fuel supply assurances that have never been offered to any NNWS; and the United States would grant India a generic consent to reprocess²⁴ nuclear material transferred pursuant to the agreement. These provisions fly in the face of the basic principles of the regime envisioned by the NPT: non-NPT states (such as India) should accept all, not fewer, of the obligations and responsibilities of nuclear-weapon states and should get less, not more, cooperation from nuclear-supplier states than the cooperation to which NNWSs parties to the NPT have a right.

If for commercial interests, the NSG, under pressure of some of its powerful members agrees to disregard its present export rules for what the United States has unilaterally defined as the “special case of India,” the nonproliferation regime will be weakened precisely at a time when it should be strengthened. Independent of the “special case of India,” the NSG should formally adopt without further delay the criteria for access to enrichment and reprocessing technology that have been broadly agreed during its March 2008 meeting, including the condition of having in force an IAEA Additional Protocol.

The NSG should also decide that these nuclear export criteria will be included in any bilateral nuclear cooperation agreement and that these nonproliferation requirements must be communicated, for information, to the IAEA. Also, in order to help the IAEA in its efforts to uncover illicit trafficking in nuclear material and equipment, the NSG should adopt the rule that each of its members should individually:

- Regularly report to the IAEA export denials and failed procurement attempts of single or dual-use equipment, and
- Promptly provide the IAEA with access to all information available when a case of illicit trafficking of nuclear material has been discovered, in order for the agency to be able to identify the origin of the material and possibly its destination.

All IAEA member states should also allow the agency to establish a fingerprint database of all sources of nuclear material. Russia can be particularly helpful in this regard since it appears that a number of seizures of nuclear material in illicit traffic have pointed to a Russian origin.

²³ Article 4 of the 123 Agreement states “this Agreement shall be implemented in a manner so as not to hinder or otherwise interfere with [...] military nuclear facilities.”

²⁴ Article 6 (iii) of the 123 Agreement provides that “The Parties grant each other consent to reprocess or otherwise alter in form or content nuclear material transferred pursuant to this Agreement.”

Preparing the 2010 NPT Review Conference

Both disarmament and a stronger nonproliferation regime are a prerequisite for an orderly expansion of nuclear energy, which is in the common interest of Russia, the United States, and the European Union. The time has come for common understanding and action, for cooperation instead of confrontation. On nuclear nonproliferation issues at least, this should be achievable, because responsible leaders should not sacrifice the world's long-term security for short-term geopolitical advantages.

If the 2010 NPT Review Conference is to be successful and agreement is to be achieved on concrete steps that would strengthen the nonproliferation regime, progress on nuclear disarmament is indispensable. It is well understood that whatever progress NWSs achieve in nuclear disarmament it will not, per se, be sufficient to convince those states determined to acquire a nuclear-weapons capability to change course. But it remains a prerequisite to gaining broad international support for measures such as those proposed in this paper.

It is of course very important to support explicitly the vision of a world free of nuclear weapons, but progress toward that goal will be judged on practical and concrete steps not just rhetorical statements. President Putin said (Munich, October 2007): "The potential danger of the destabilization of international relations is connected with obvious stagnation on the disarmament issue."

The P-5 now needs to agree on the concrete disarmament steps that constitute a priority and can be achieved before 2010.

If one had to select only three issues, in this author's view, they should be: ratifying the Comprehensive Test Ban Treaty (CTBT); agreeing on a Fissile Material Cut-Off Treaty (FMCT), while simultaneously implementing the Trilateral Initiative; and last but not least, de-emphasizing the value of nuclear weapons.

Ratifying the CTBT

To speak about the vision of a world free of nuclear weapons without making every effort to bring the CTBT into force will not only convince no one, but may well sound like a mockery.

To date, 138 states have ratified the CTBT. For this most important treaty to come into force, it still needs to be ratified by the following 10 states: China, Colombia, Egypt, India, Indonesia, Iran, Israel, North Korea, Pakistan, and the United States.²⁵

It is the primary responsibility of NWSs to convince the world that nuclear weapons will progressively become obsolete and irrelevant to their future security strategy and therefore that NWSs neither need nor intend to disregard their NPT commitments by developing and testing new types of nuclear weapons.

²⁵ Among those, only three states have not signed the CTBT: India, North Korea, and Pakistan.

Until more convincing progress is made in the area of irreversible nuclear disarmament, many nonnuclear-weapon states will no doubt continue to oppose highly desirable tightening measures of the nonproliferation regime.

The very first concrete step should be for the United States and China to ratify the CTBT, as have the other three NWSs, France, the Russian Federation, and the United Kingdom.

Ratifying the CTBT (the first of the 13 practical steps agreed to by consensus by the 2000 NPT Review Conference) is the most convincing indicator of the NWSs' willingness to comply with their NPT (Article VI) disarmament undertakings.

Many NNWSs, particularly from the Non-Aligned Movement (NAM), have been quite vocal in expressing their frustration not only about the lack of progress by the five NWSs with regard to the implementation of the "13 practical steps" referred to above, but also about the "legal double standard" between NNWSs that are party to the NPT and the three states that are not (India, Israel, and Pakistan) with regard to international verification of their nuclear activities.

Once the CTBT has been ratified by all NWSs, it will be logical and easier for supplier countries to request that India ratify the treaty as a condition for any nuclear cooperation. This would increase the chances that India would one day agree to join the CTBT, provided of course that Pakistan does so too. Israel, which has already signed the CTBT, would most likely ratify it before the other non-NPT States. It must be a priority for the next U.S. president to have the CTBT ratified by the United States before the 2010 NPT Review Conference.

Establishing a WMD free zone in the Middle East is obviously a desirable long-term objective. However everyone knows that in order to reach that stage a series of difficult political steps need to be taken and that this will likely take decades to achieve.

A first important milestone on this long road would be for all states in the region that have not yet done so to sign and ratify the CTBT, in particular Israel, Iran, and Egypt. This would particularly be in Egypt's interest; rather than appearing to be prominent among those opposing badly needed measures to strengthen the nonproliferation regime,²⁶ Egypt should use its diplomatic leverage to reach that goal.

Another important case relates to North Korea. The Six-Party Talks that resulted in the Joint Statements of September 2005 and February 2007 have as their goal "the verifiable denuclearization of the Korean Peninsula in a peaceful manner," including North Korea's commitment to abandon all nuclear weapons. The ratification of the CTBT by North Korea would be a logical and important step and should therefore be mentioned explicitly in future discussions. Here again, the ratification of the CTBT by the United States and China would make progress in this direction much more likely.

²⁶ Such as the conclusion of the Additional Protocol (AP) to Comprehensive Safeguards Agreement (CSA), a request repeatedly made by the IAEA's Board of Governors and General Conference.

For any party to the NPT to delay or obstruct the entry into force of the CTBT is incompatible with the spirit of the Non-Proliferation Treaty and with the basic undertakings of its signatories.

Nuclear-supplier states (within or outside the NSG) should undertake not to provide any nuclear energy cooperation (except possibly for major well-defined safety reasons) to any state that has not ratified the CTBT. They would thereby demonstrate that they are ready to give priority to their nonproliferation undertakings for the sake of international peace and security in the long term, rather than to their short-term economic interests. Russia and the European Union have a common interest and are in a good position to promote this objective.

The FMCT and the Trilateral Initiative

Among the 13 practical steps agreed upon in the final document of the 2000 NPT Review Conference, under implementation of Article VI of the NPT, is the application of the principle of irreversibility to nuclear disarmament (step 5).

Whatever the merit of unilateral or bilaterally agreed reductions of the number of nuclear warheads in NWSs' arsenals, it is crucial to convince NNWSs that this trend is irreversible. This is why it is so important to make progress in negotiating a Fissile Material Cut-off Treaty (FMCT) that would cap globally the quantity of fissile material that can be used in nuclear weapons. In parallel, the Trilateral Initiative launched in September 1996 by the United States, the Russian Federation, and the IAEA to develop a new IAEA verification system for weapon-origin material removed from defense programs, should be concluded and implemented (step 8). This would serve as an example for all NWSs to place fissile material designated by each of them as no longer required for military purpose under IAEA verification in order to ensure that such material remains permanently outside military programs (step 10).

In order to increase the likelihood of an FMCT being agreed on sooner rather than later, it would appear reasonable to limit its initial scope to the production of weapons-grade material after its entry into force and not to insist on the more ambitious goal of including existing stocks, which at this stage would be a clear recipe for failure. The other most difficult challenge is to agree on the principle and the extent of international verification measures under the FMCT. But in any case it is important to remember that under Article 18 of the Vienna Convention on the Law of Treaties:

A State is obliged to refrain from acts which would defeat the object and purpose of a treaty when:

- (a) It has signed the treaty or has exchanged instruments constituting the treaty subject to ratification, acceptance or approval, until it shall have made its intention clear not to become a party to the treaty; or
- (b) It has expressed its consent to be bound by the treaty, pending the entry into force of the treaty and provided that such entry into force is not unduly delayed.

Entry into force of an FMCT is certainly many years away. But, before 2010, the P-5 should jointly declare²⁷ that pending the entry into force of a multilateral FMCT, they will not produce fissile material for nuclear weapons. If China cannot be persuaded, the other four NWSs should nevertheless make such a joint declaration.

De-emphasizing the Value of Nuclear Weapons

As underlined by Alexei Arbatov,²⁸

[T]he end of the Cold War, instead of doing away with nuclear deterrence and eventually nuclear weapons, has up to now led to doing away with the regime of nuclear arms limitations, reductions and disarmament, as well as transparency and confidence building.... The victims of this process (primarily at the initiatives of current US policy-makers) have already become the ABM Treaty, START II and START III Framework Treaty, an Agreement on delineation between strategic and tactical BMD systems, CTBT, potentially FMCT and even NPT—at least as it looks by the results of a disastrous NPT review conference of May 2005.... Unfortunately Russia has followed the bad example of the United States in words and deeds, as always with a lag of several years. Showing that it is now also a “tough guy” on the block it has, first, suspended its compliance with the CFE Treaty and second, actively contemplated possible withdrawal from the INF-SRF Treaty.

As suggested by Arbatov, the first and most important step should be for the P-5 to make an unequivocal nuclear non-first-use pledge to all nonnuclear-weapon states party to the NPT.

Another important step would be for the P-5 to de-alert strategic nuclear forces and verifiably withdraw all their tactical nuclear weapons from forward bases to centralized storage sites on their national territories.

There have been clear signals that both Russia and the United States agree on the necessity to place high priority on negotiating a follow-up agreement to the Strategic Arms Reduction Treaty (START), since that treaty will end at the close of 2009 and must either be extended or replaced by that time.

As already mentioned, these steps will not, by themselves, deter any state that intends to acquire nuclear weapons, but they are indispensable for gaining NNWSs’ support for the nonproliferation strengthening measures proposed in this paper.

Between now and the 2010 NPT Review Conference, one would hope that Russia and the United States will give greater momentum to the disarmament process and will compete to be perceived by others to be the world’s most responsible nuclear-weapon state.

²⁷ As suggested by Robert J. Einhorn of CSIS at the International Conference on Nuclear Disarmament, Oslo, February 26–27, 2008.

²⁸ Alexei Arbatov, “Reducing the Role of Nuclear Weapons” (paper presented at the International Conference on Nuclear Disarmament, Oslo, February 26–27, 2008).

Conclusion

On April 2, 2008, in Bucharest, President Bush said “The Cold War is over and Russia is not our enemy, and there’s common ground,”²⁹ and the April 6, 2008, Strategic Framework Declaration asserts that the relationship between Russia and the United States is “moving from one of strategic competition to strategic partnership.” This is most encouraging.

President Putin stated in 2007 “I consider that Russia and the USA are objectively and equally interested in strengthening the regime of the non-proliferation of weapons of mass destruction and their deployment. It is precisely our countries, with leading nuclear and missile capabilities that must act as leaders in developing new stricter non-proliferation measures. Russia is ready for such work.” This is also most encouraging.

Let us now translate these good resolutions into concrete actions and measures such as those suggested in this paper.

As Cardinal de Richelieu once said “Politics is the art of making possible what is necessary.”

²⁹ Associated Press, “For Bush and Putin, trust remains a bedrock of efforts to control nuclear programs,” *International Herald Tribune*, April 2, 2008.

Annex I. Nuclear Cooperation Agreements Recently Concluded between NWSs and NNWSs

The objective of this annex is not to be exhaustive but to provide a glimpse of the unusual number of nuclear cooperation agreements that have been signed or negotiated over the last few years by nuclear-weapon states (NWS) with nonnuclear-weapon states (NNWS), particularly in the Middle East.

Russia

Over the last couple of years, Russia has actively pursued nuclear cooperation deals, in particular with Kazakhstan (2007, 2008),³⁰ Algeria (January 2007), Armenia (2007, 2008),³¹ Myanmar (May 2007), Mongolia (June 2007 agreement on construction of a power plant),³² Australia (September 2007),³³ India (February 2008),³⁴ Japan (March 2008), Namibia (uranium mining memorandum 2008), and Egypt (March 2008). In January 2008, Russia signed a 4-billion contract for NPPs in Bulgaria. Atomstroyexport, the export branch of Russia's RosEnergoAtom, is also involved in feasibility studies for the construction of a nuclear plant at Sidi Boulbra in Morocco. In addition to this, Russia and Ukraine are undergoing negotiations for shaping a new nuclear fuel supply contract. Rosatom has actively sought deals in South Africa, Canada, Namibia, and Chile, as well as signed an MoU with Enel of Italy, and media reports indicate that Russia has been pursuing cooperation deals with Argentina, Brazil, and possibly Peru.

France

France has also been very active in this field since the election of President Sarkozy. It has recently signed a number of nuclear cooperation agreements: with Libya (2006, 2007), Algeria (December 2007), Vietnam (originally signed in 1996, extended in 2007), Morocco (October 2007), India (January 2008), the UAE (January 2008), and Tunisia (April 2008). The possibility of nuclear cooperation has been discussed with numerous other partners, including Georgia (June 2007), Yemen, Egypt (statements by Sarkozy in January 2008),³⁵ Jordan (rumored deal imminent April 2008), and South Korea (April 2008). In a related development, a cooperation agreement was signed in February 2008 between Brazil, Argentina, and France for the development of a

³⁰ July 2006 joint venture; deal for the Angarsk uranium enrichment center signed in May 2007.

³¹ A 2007 offer to build a new plant; a cooperation agreement in February 2008; and a uranium prospection joint venture in April 2008.

³² The Mongolian media reports that an agreement was signed in April 2008 and includes the supply of uranium from Mongolia to Russia.

³³ Expanded under the existing 1990 agreement.

³⁴ Agreement on joint construction of nuclear plants, subject to India conforming to IAEA standard safeguards; previous agreement signed in 1989 prior to Russia's entry to the NSG, updated in 1998 and 2007.

³⁵ A cooperation agreement with Egypt dates from 1980; in March 2008 French foreign trade minister Anne-Marie Idrac spoke of it being reactivated.

nuclear submarine. France will contribute to the fabrication, in Brazil, of the nonnuclear component of the submarine. Safeguarding the nuclear material of such a submarine will be a major new challenge for the IAEA.

China

For its part China has signed agreements with Bangladesh (2005), Australia (April 2006), South Africa (June 2006, to be confirmed), Egypt (November 2006), Kazakhstan (May 2007), and Algeria (March 2008). China began construction of the Chasma 2 reactor in December 2005, and since at least 2006 China has sought an agreement for helping Pakistan build six additional nuclear reactors at least twice the size of the Chasma reactor.

United States

The United States signed nuclear cooperation agreements with Algeria (June 2007), Vietnam (March 2007 deal on the use of LEU in the Da Lat research reactor), India (August 2007), Armenia (November 2007 feasibility study for new nuclear plants), Bahrain (MoU signed in March 2008), and the UAE (April 2008). Washington is also offering nuclear cooperation to Saudi Arabia, Egypt, Turkey, and Jordan. It is interesting to note that in recent years Ukraine has experimented with alternative assemblies manufactured by Westinghouse. Reports in late March 2008 indicated that Westinghouse would supply further assemblies for three of Ukraine's power reactors, prompting protest from Russia. Also, in 2004, the United States concluded a bilateral arrangement with Indonesia in nuclear safeguards and security.

United Kingdom

It was announced, most recently, that the United Kingdom and the United Arab Emirates have signed an MoU concerning cooperation in the peaceful uses of nuclear energy.

Annex II. IAEA Fuel Bank and Generic Export License

The supplier states that are to provide low-enriched uranium stocks to the IAEA and/or drawing rights on their fuel fabrication capacity will have to conclude a contract with the IAEA, whereby they would grant the IAEA a binding long-term generic export license for all fresh fuel assemblies to be delivered to a recipient state, which, according to the agency, meets the following conditions:

- The recipient state is a party to the NPT and has been denied the delivery of fresh fuel assemblies for an operating NPP for purely political reasons;
- The recipient state has not issued any notice of withdrawal from the NPT;
- The recipient state has concluded with the IAEA an INFCIRC/66 type safeguards agreement for the NPP under consideration. This agreement would normally be subsumed under the Comprehensive Safeguards Agreement (CSA), but would be implemented in case the recipient state withdraws from the NPT, so that any fresh fuel or spent fuel remaining in the recipient state would always be subject to IAEA safeguards;³⁶
- The recipient state has a CSA and an Additional Protocol in force;
- The IAEA has drawn the annual conclusion that there has been no diversion of nuclear material placed under safeguards and that there is no undeclared nuclear material and activities in the recipient state;
- The IAEA has not raised questions or found inconsistencies or anomalies concerning the state's nuclear program that have not been resolved within a given period not to exceed 12 months;
- The spent fuel has been returned to the supplier state within the contractual timeframe;
- The NPP meets international (IAEA) safety standards and an adequate level of physical protection; and
- The recipient state does not carry on any sensitive nuclear fuel-cycle activity domestically.

³⁶ A CSA remains in force only for so long as the state remains party to the NPT, whereas under a INFCIRC/66 type agreement all nuclear material supplied or produced under that agreement would remain under safeguards, even if the state withdraws from the NPT, until such time the IAEA has determined that such material is no longer subject to safeguards.

Annex III. NSG Export Criteria for Non-NPT States

The recipient non-NPT state:

- Must have signed and ratified the Comprehensive Test Ban Treaty (CTBT).³⁷ This could be done with the understanding that if another state proceeds with a nuclear test this would constitute an event, as defined in Article IX.2 of the CTBT, justifying the withdrawal from the Treaty;
- Must agree that if it tests a nuclear device, all cooperation will be discontinued and all nuclear material, equipment, nonnuclear material or components transferred and any special fissionable material produced through their use would be removed from the country under IAEA safeguards;
- Must adhere to a multilateral moratorium pending the entry into force of a formal treaty banning the production of fissile material for nuclear weapons (FMCT);
- Must have *all new* NPPs constructed and operated in the state subject to IAEA safeguards in perpetuity;
- Must have ratified an Additional Protocol to its safeguards agreement (as four out of the five NWSs have already done);
- Must not have materially breached an IAEA safeguards agreement;
- Must adhere to the NSG export guidelines and the Missile Technology Control Regime (MTCR) and must commit not to export sensitive fuel-cycle equipment and technology;
- Must implement UNSC Resolution 1540;
- Must have ratified the Convention for the Suppression of Acts of Nuclear Terrorism;
- Must support and participate in the Proliferation Security Initiative (PSI);
- Must implement IAEA Safety Standards and adhere to accepted international safety norms;
- Must apply standards of physical protection based on current international guidelines.³⁸

The scope of nuclear cooperation with non-NPT states should be limited as follows:

- Cooperation should be restricted to the construction and operation of NPPs for electricity production, the delivery of the necessary fresh fuel assemblies, and the management of spent fuel (without reprocessing) and radioactive wastes;

³⁷ As requested from India and Pakistan in UNSC Resolution 1172.

³⁸ The minimum level of physical protection should be as set out in IAEA document INFCIRC 225/Rev.4 as it may be revised. The recipient state must have ratified the 1980 Convention on the Physical Protection of Nuclear Material (CPPNM) and any amendments thereto.

- There would be no export of equipment, materials, or technologies related to sensitive fuel-cycle facilities, including enrichment, reprocessing, and heavy water production;
- No nuclear material delivered under any cooperation agreement or derived therefrom should be reprocessed or enriched beyond 5 percent U-235 without the explicit prior consent of the NSG and only in facilities placed under IAEA safeguards.

