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# THE SECURITY OF WMD RELATED MATERIAL IN RUSSIA

DRAFT GENERAL REPORT

# PIERRE CLAUDE NOLIN (CANADA) GENERAL RAPPORTEUR\*

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\* Until this document has been approved by the Science and Technology Committee, it represents only the views of the Rapporteur.

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#### I. INTRODUCTION

1. The issue of managing Russia's weapons of mass destruction (WMD) arsenal became acute in the early 1990s, when, following international agreements in this area (START I, INF, BWC and CWC), the Soviet Union/Russia committed to significantly reduce or even eliminate these arsenals. The collapse of the USSR raised particular concerns with regard to this country's ability to effectively ensure security of its WMD complex. Furthermore, a bulk of weapons and assets were located outside of Russia, on the territory of other countries of the Former Soviet Union (FSU).

2. A number of incidents involving the disappearance of WMD-related material induced the international community – with the United States at the forefront – to assist Russia in securing its WMD assets. Thus, following the initiative of US Senators Sam Nunn and Richard Lugar, the bilateral US-Russian Co-operative Threat Reduction (CTR, sometimes called the Marshall Plan for WMD non-proliferation) programme was introduced in 1992. The CTR consists of a number of projects, conducted by the US Department of Defence, the US Department of Energy and the US Department of State. Between 1992 and 2002, these three departments have funded over \$4.9 billion in non-proliferation and threat reduction assistance to Russia. In 2002, the United States, as part of G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (henceforth: "Global Partnership"), committed to spend approximately \$1 billion on these activities annually, up from \$400 million in 1992. In the late 1990s, the European Union became involved in a similar co-operation, along with a number of industrialized nations. The CTR was extremely successful in the early- and mid-1990s, when it played a key role in prompting the withdrawal of all Soviet military nuclear assets from Ukraine, Belarus and Kazakhstan to Russia.

3. The significance of the problem was particularly highlighted after the terrorist attack on the United States on 11 September 2001. The international community was profoundly alarmed by the prospect of terrorists using nuclear, biological or chemical weapons. The largest industrialized nations of the world decided, during the G-8 Summit in Kananaskis, Canada, in 2002, to launch the Global Partnership, aimed to fight against the spread of WMD by addressing the legacy of these weapons in Russia and other FSU countries. The partnership countries – the United States, Canada, the United Kingdom, Germany, Italy, France, Japan, Russia and the European Union – have pledged to raise \$20 billion to fund programmes over the coming ten years. Half of this amount (\$10 billion) comes from the United States, other pledges are: Canada \$650 million, France \$890 million, Italy \$1.2 billion, Japan \$200 million, Germany \$1.5 billion, United Kingdom \$750 million, Russia \$2 billion and the European Commission €1 billion. In 2003, six other nations joined the Global Partnership: Norway, the Netherlands, Finland, Poland, Sweden and Switzerland, committing another \$200 million. Australia, Belgium, the Czech Republic, Denmark, Ireland, the Republic of Korea, and New Zealand decided to join the partnership in 2004.

4. The recent G8 Summit took place in July 2005, at Gleneagles, UK. The Summit did not result in new initiatives related to global nonproliferation. Poverty reduction and climate change overshadowed this issue, and the London bombings cut the meeting short. However, the G8 leaders supported existing efforts to prevent the spread of nuclear, biological, and chemical weapons. They also praised recent initiatives such as the Proliferation Security Initiative and UN Security Council Resolution 1540, which calls on all UN member countries to submit reports on their domestic nonproliferation provisions and their contribution to international co-operation.

5. Another important project is the Non-proliferation and Disarmament Co-operation Initiative (NDCI). Co-sponsored by the European Union, Canada and the United States, NDCI conferences have brought together hundreds of experts on WMD threat reduction to discuss activities in the former Soviet countries. Initially hosted by the United States in 1999, four NDCI conferences have taken place so far. NDCI experts work together in order to provide analytical assessment of remaining problems and to identify new opportunities for non-proliferation efforts.

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6. Private organisations can contribute significantly as well. The Nuclear Threat Initiative (NTI), launched by CNN founder Ted Turner and former Senator Sam Nunn, is working to reduce the global threats from nuclear, biological and chemical weapons. The NTI seeks to raise public awareness, serve as a catalyst for new thinking, and take direct action to reduce these threats. In Russia, the NTI works on activities to secure, consolidate and reduce highly enriched uranium (HEU) and weapons-grade plutonium; to leverage resources to address proliferation threats posed by nuclear, biological and chemical weapons and their associated materials, infrastructure and human capital; and to strengthen US-Russian co-operation on nonproliferation. The NTI's work in this area is guided by the history of scientist-to-scientist co-operation between US and Russian specialists and the Nunn-Lugar CTR program.

Despite some progress, a number of problems remain, including co-ordination of efforts, an 7. insufficient degree of transparency, bureaucratic obstacles, and fulfilment of commitments. This issue remains one of the top priorities on the agendas of Russian and US leaders. President Putin himself, in an interview with the BBC, admitted "the proliferation of weapons of mass destruction is the greatest menace of the twenty-first century". He reiterated the importance of coping with proliferation in his address to the UN General Assembly in September 2003. In a speech at the National Defence University on February 11, 2004, President George W. Bush praised the farsightedness of Senators Nunn and Lugar, and pledged to "expand [American] efforts to keep weapons from the Cold War and other dangerous materials out of the wrong hands". During her confirmation hearing as Secretary of State, Condoleezza Rice confirmed that the Bush administration would continue to support efforts to secure nuclear weapons materials in the former Soviet Union. During the Bush-Putin Summit in Bratislava, February 2005, the presidents agreed to strengthen the common efforts to increase the security of nuclear assets, and established a US-Russian Senior Interagency Group for co-operation on nuclear security to report on the implementation of the two countries' commitments. Some experts, however, indicated that the summit had failed to solve some important issues, such as increased access to Russian facilities and liability protections for US non-proliferation work conducted in Russia.

The NATO Parliamentary Assembly and its Science and Technology Committee have a long 8. tradition of addressing the issue of the security of Russia's WMD and related materials: the issue has been addressed in Committee reports and meetings since the early 1990's. In 2001, the former Committee's Rapporteur Vernon J. Ehlers examined the issue, focussing more on nuclear weapons, in his excellent report Safeguarding the Nuclear Complex in Russia and the Newly Independent States. Consequently, the Assembly adopted a Resolution on Safeguarding the Nuclear Complex in Russia and other Newly Independent States. This resolution urged nations to: enhance their cooperation with Russia in this field in order to upgrade the nuclear weapons and materials protection and accounting capabilities; assist in eliminating the excess stockpiles and retired weapons and relative assets; and address the needs of personnel. However, in the light of new developments, especially the Global Partnership, and also considering the growing menace of possible terrorist use of WMD, and considering the need to examine the security situation of non-nuclear WMD (i.e., chemical and biological), your Rapporteur believes that it is important for the NATO parliamentarians to address this vital issue again. The Rapporteur has taken into account the results of the visit of the delegation of the Sub-Committee on Proliferation of Military Technology of the STC to Moscow in April 2005, where the members of the Sub-Committee had very fruitful discussions with Russian colleagues, officials and experts about the problems related to the dismantlement and security of Russia's arsenals of weapons of mass destruction.

#### II. NUCLEAR WEAPONS

#### A. RUSSIA'S NUCLEAR FORCES

9. After the collapse of the Soviet Union in 1991, following its commitments to START and the Moscow Treaty of 2002, Russia considerably reduced its nuclear arsenal. According to estimates by the Natural Resources Defence Council, by 1991 the Soviet Union had approximately 35,000 weapons in its stockpile (though not all of them were fielded), down from a peak in 1986 of approximately 45,000. START brought Russia's warhead numbers below 6,000. The START-II Treaty, which was declared non-binding in June 2002, would have reduced this number to between 3,000 and 3,500 strategic nuclear warheads. The Strategic Offensive Reductions Treaty (Treaty of Moscow), which entered into force in 2003, requires Russia to reduce the number of strategic warheads to between 1,700 and 2,200 by the end of 2012.

10. The number Russia declared in its 1 January 2005 START Memorandum of Understanding (MoU) data update was 4,732 warheads attributed to 981 launchers: 611 ICBMs (2,436 warheads), 292 SLBMs (1,672 warheads), 78 bombers (624 warheads). Additionally, according to *The Bulletin of the Atomic Scientists*, Russia possesses approximately 9,000 warheads that are not operational.

11. The Bulletin's figures show that Russia plans to reduce its emphasis on Intercontinental Ballistic Missiles (ICBMs) – traditionally the backbone of its strategic forces – by withdrawing most of the multiple-warhead SS-18 and SS-19 missiles. This might decrease the number of ICBM warheads by nearly 70 percent – from 2,270 to even as low as 750. By 2010, ICBMs and submarine-launched ballistic missiles (SLBMs) will carry approximately the same number of warheads.

12. Alongside dismantlement, another process taking place in Russia is upgrading. Russia plans to replace its old ICBMs with modern Topol-M (SS-27) nuclear missiles. The nuclear submarine fleet will be upgraded by RSM-56 (Bulava) SLBMs. With respect to strategic air forces, Russia may deploy a nuclear variant of a new cruise missile (Kh-102). Both dismantlement and upgrading processes imply that Russia will continue to possess a number of nuclear weapons that must continue to be secured.

#### B. SECURITY OF STRATEGIC NUCLEAR WEAPONS

13. The United States, through its CTR programmes, is by far the most significant contributor in securing the retired Russian nuclear warheads. The United States provides crucial assistance to Russia in *dismantling* its ICBMs and their launchers. Other members of the Global Partnership contribute in dismantling and securing Russian nuclear submarines and nuclear storage facilities. According to the FY 2006 Annual Report to Congress, as of December 2004, the CTR programme (namely, DoD's Strategic Offensive Arms Elimination (SOAE)) assisted Russia in securing 6,564 of Russia's strategic nuclear warheads and their related weapons platforms. In 2004 alone, the CTR assisted in eliminating 260 warheads, 30 ICBMs, 18 ICBM silos, 7 ICBM mobile launchers, 14 bombers, and 110 advanced cruise missiles. The CTR's assistance in this area includes providing equipment and services for dismantlement.

14. Furthermore, another CTR programme, Nuclear Weapons Transportation Security (NWTS), deals with enhancing the security of *shipping* the warheads by trains from operational bases to storage and dismantlement facilities. This programme provided security upgrade kits for railcars, armoured blankets, super containers, improved communication systems for emergency response, tracking systems, etc. In 2004, the programme assisted in shipping 45 trainloads of warheads and related materials.

15. The issue of weapons transport is extremely pressing, as Russian nuclear weapons normally have a significantly shorter lifespan than, for instance, American ones. Therefore, a number of Russian nuclear bombs have to be transported back to the nuclear weapons plants for remanufacturing. However, considerable progress has been achieved in enhancing transportation security and diminishing the threat of theft or terrorist attack. In August 2004, the Russian Minister of Defence organised a Russian military exercise, Avaria 2004 (Accident 2004), focussed on protecting and defending nuclear weapons convoys and responding to terrorist attacks. The exercise, held near the town of Olenegorsk in the Murmansk region, involved over 1,000 troops and various law enforcement personnel, and imitated a terrorist attack on a convoy transporting nuclear weapons. In the second part of the exercise, a vehicle carrying a nuclear weapon went off the road into a lake, and was recovered by radiological reconnaissance crews. 49 experts from 17 NATO countries and NATO headquarters attended the exercise. Russia's defence minister Sergey Ivanov presented the exercise as a proof that the transportation of Russia's nuclear weapons is properly protected.

16. In order to secure the retired warheads once they reach storage facilities, the CTR's Nuclear Weapons Storage Security (NWSS) programme was established to support comprehensive security upgrades for these facilities. The assistance includes more advanced security equipment, fencing systems, a computerisation of warhead accounting systems, dosimeters for radiation and radon detection, and training as well as drug and alcohol screening of those who have access to nuclear weapons. The US-supported facility at Sergeyev Posad serves as an example for other storage sites.

17. The security of storage facilities raises particular concerns. Their exact number is still not known, due to the secrecy inherent to the domain of nuclear weapons. According to the estimates of US Nuclear Threat Initiative (NTI), roughly 65-75 warhead storage sites remain in Russia, as well as up to 100 temporary storage facilities. A large portion of storage facilities is yet to be properly upgraded. According to Charles Curtis, President of Nuclear Threat Initiative, after more than a decade of CTR activities, only half of Russian nuclear weapons have been properly secured. Correspondingly negligible progress has been achieved in upgrading temporary storage facilities. The US officials are still hoping to finish the upgrading process on all storage facilities by 2008, provided the access issue is settled.

18. US-Russian co-operation in enhancing storage site security has been impeded for many years by Russia's refusal to grant access to certain sites for inspections by US officials. The 11 September 2001 attacks induced both governments to become more flexible, and, following an agreement between the two defence ministries in 2003, the Russian authorities permitted some access to a limited number of sites. The issue of broader US monitoring has not yet been solved, however, and continues to cause discontent in the US Congress. In its report to the Congress, the Government Accountability Office (GAO) concluded that the security improvements on storage sites in Russia had been stalling "because Russia is not providing needed access to many sites". Indeed, while the question was raised anew by President Bush during the Bush-Putin Bratislava Summit, Russian Defence Minister Sergey Ivanov reiterated "inspections are out of the question".

19. In September 2004, after a series of terrorist attacks in Russia, the country's authorities decided to deploy additional troops to guard Russian nuclear sites. Defence Minister Ivanov also urged Russia and NATO to begin exchanging technologies in order to improve the security of nuclear facilities. Nevertheless, Russian officials – led by Minister Ivanov – repeatedly declared that Russia's nuclear arsenal was absolutely safe, and said that the concerns and allegations of the international community in this respect are based on "myths". However, Ivan Safranchuk, head of the Washington-based Centre for Defence Information's Moscow office, said that "by accepting the US money to upgrade security at its nuclear sites, Russia seems to be acknowledging that it cannot handle the problem without outside help".

#### C. UTILISATION OF NUCLEAR SUB-MARINES

20. Russia's decommissioned nuclear-powered submarines present serious proliferation-related and environmental threats, and deserve separate consideration. This issue is regarded as one of four priorities of the Global Partnership. While President Putin has identified submarine dismantlement as a top Russian priority, Russia is far from having the means to handle these threats without foreign assistance.

21. The utilisation process in the USSR/Russia started in mid-1980s, when the first Russian nuclear submarines were decommissioned. As of the beginning of 2005, 195 Russian nuclear submarines were decommissioned, but only a little more than half of them actually dismantled. Some 83 of them were still either waiting for dismantlement or being dismantled. Russian officials expect to have all decommissioned submarines dismantled by 2010. According to Sergei Antipov, Deputy Head of Russia's Atomic Energy Agency, the cost of implementing all of these complex measures is estimated to be approximately \$3 billion. Because Russia spends an average of only \$70 million annually in this area, international assistance is crucial to cope with this problem.

22. The international community is taking this issue seriously. The G-8 Global Partnership countries are engaged in a number of assistance projects. The United States continuously assists Russia in dismantling its ballistic-missile submarines (the United States does not fund dismantlement of general-purpose nuclear submarines). According to GAO figures, as of March 2004, the United States contributed to the dismantlement of 27 Russian ballistic nuclear submarines, with an additional 15 submarines to be dismantled by 2013. The United Kingdom and Norway are funding dismantlement and decontamination activities in the Russian Northern Fleet, while Japan is facilitating dismantlement activities on the Pacific coast. Germany is supporting the dismantlement of submarines at the Nerpa shipyard and a long-term storage facility for reactor compartments at Saida Bay, Northwest Russia. Canada, Italy and France have also designated large parts of their total Global Partnership commitments to sponsoring dismantlement and related issues. Russia itself has pledged \$65 million for these purposes.

23. The main concerns include the safety of debarkation, transportation, storage and reprocessing of spent nuclear fuel, as well as careful management of both the solid and the liquid nuclear waste that comes out when exploiting a nuclear submarine. This is a complicated and expensive process. The decommissioned nuclear submarines are particularly attractive to terrorists seeking to acquire "dirty bombs". A large number of submarines were written off more than 20 years ago, and by now their nuclear fuel has lost part of its self-defensibility, as its radioactivity has diminished. However, this fuel remains a highly-enriched material, suitable for producing crude nuclear weapons.

24. Currently, 52 decommissioned Russian submarines have their spent nuclear fuel on board. So far, they are being defueled using Russian funds. However, the United Kingdom has indicated that it intends to handle defueling as well as dismantling. The United States, Sweden, Norway and the United Kingdom have undertaken projects to secure and improve the storage of spent fuel. Spent fuel contains highly enriched uranium and plutonium and could be used to construct nuclear devices. Therefore, its security is the top priority aside from submarine dismantlement.

25. The condition of the storage complex at the Andreyeva Bay, the largest storage for naval spent nuclear fuel for the Northern Fleet, illustrates the problem. This complex is a former naval base, located in the Kola Peninsula in the vicinity of the Norwegian border. The base was established in the 1960s for handling and storing spent nuclear fuel, but following a series of mishaps fell out of use. It is now largely derelict, but it remains severely contaminated and has significant quantities of spent fuel at the site. For a long time the situation in this base did not receive proper attention, and storage tanks kept deteriorating due to both poor maintenance and the adverse Arctic climate. Although the international community (specifically, Norway, Sweden and the United Kingdom) is

now engaged in a number of projects to improve conditions at Andreyeva Bay, this site still poses a considerable environmental threat.

26. So far, the majority of international assistance has been rendered to Northwest Russia, while the Russian Far East region has enjoyed far less attention. However, this region also faces severe proliferation threats from Pacific Fleet submarines. Accessibility to facilities in the Far East is greater than in the Northwest region, making them more vulnerable to nuclear thefts. Japan and the US Department of Energy are involved, and the joint Norwegian/Russian/UK/US AMEC program is being considered for expansion into the Russian Far East. The Pacific donor nations of Australia, Canada, New Zealand and South Korea will be valuable contributors to dismantlement projects in this region.

27. In addition to Global Partnership, the issue is also dealt with by programs such as the Northern Dimension Environmental Partnership (NDEP), the Arctic Military Environmental Cooperation (AMEC), IAEA's Contact Expert Group, and the Multilateral Nuclear Environment Program in the Russian Federation (MNEPR).

28. The multitude of actors involved implies the need for better *co-ordination of activity*. The experts from the Centre of Non-proliferation Studies (CNS) suggest that a single forum should be established to co-ordinate different projects and exchange information, and the officials should meet on a regular basis. Another option could be choosing one of donor countries to be a co-ordinator.

29. The effectiveness of co-operation can also be hampered by *inappropriate management* of funding by Russian authorities. In 2003, an audit of the Russian Atomic Energy Ministry, which is in charge of conducting decommissioning and dismantlement of nuclear submarines, revealed that the ministry often mishandled the funds provided by foreign donors, and several million dollars were actually used for other purposes. The Ministry also spent approximately 20% of the funds to merely maintain the retired submarines instead of dismantling them. These conclusions to some extent undermined the donors' trust in their Russian counterparts.

30. The GAO report of 2004 also indicates the question of *liability protection* as one of the key issues hampering broader US involvement. Without such protection, American contractors or employees could be held financially responsible for accidents that might occur while implementing projects in Russia. The granting of liability protection by the Russian authorities could give a significant impetus for more intense American assistance, as was the case with Norway. Before 1998, Norwegian-Russian environmental co-operation in the Arctic was minor, and it only started burgeoning after the two governments signed an agreement on liability protection.

31. However, in the summer of 2005 the United States completely withdrew its demands on Russia in negotiations on liability protection for US contractors who will work on a MOX (mixed oxides) facility there. The agreement signals a breakthrough in a two-year stalemate over protection for damage caused by individuals who act with intent. Yet the recent consensus may not be transferred to the upcoming extension of the CTR umbrella agreement, which expires in June 2006. The United States insisted that the settlement will only apply to the new agreement. If liability negotiations become contentious again, CTR programs may be severely disrupted.

#### D. TACTICAL NUCLEAR WEAPONS

32. Tactical nuclear weapons (TNW), or non-strategic nuclear weapons, are those with smaller yields and shorter ranges, designed for battlefield use. TNW include a broad array of atomic explosive devices, ranging from so-called nuclear landmines and nuclear artillery shells to air-dropped or missile launched nuclear warheads. TNW yields range from relatively low (0.1 kiloton (KT)) to higher than the bombs dropped on Hiroshima and Nagasaki (10-15 KT, upwards to

1 megaton). Even a very low-yield atomic blast would create highly damaging effects, above and beyond what a conventional explosion of the same size could produce. Because they may be relatively small and portable, TNWs are easier to transport and, for this reason, more vulnerable to theft than other nuclear weapons. In the hands of nuclear terrorists, TNWs could cause destruction far more severe than the September 11 2001 assault.

TNWs comprice the category of American and Russian nuclear arsenals which is the least 33. regulated by arms control agreements, although the US Administration does not consider this as a major problem. TNWs are subject only to an informal regulatory regime, created by unilateral, parallel declarations by the US and USSR/Russian leaders. On September 27, 1991, the US president George H.W. Bush announced that the United States would unilaterally 1) eliminate nuclear warheads for Lance short-range ballistic missiles; 2) withdraw all TNWs from surface ships and attack submarines (including nuclear bombs on aircraft carriers and Tomahawk sea-launched cruise missiles, as well as those nuclear weapons associated with naval aircraft; and 3) dismantle and destroy many of these land and sea-based warheads and secure the remaining warheads in central storage sites. He urged the USSR to reciprocate. In March 2003 the United States announced that it had completed the implementation of its 1991 pledges. The Soviet President Mikhail Gorbachev promised that Moscow would dismantle its nuclear warheads for tactical missiles, mines, and artillery munitions. Gorbachev also pledged to store nuclear warheads removed from air defence missiles, surface ships, multipurpose submarines, and land-based naval aircraft in central locations. President Yeltsin of Russia reiterated Gorbachev's commitment in 1992. The arms control community welcomed these initiatives, since they resulted in substantial TNW reductions. However, as these agreements have never been formalized, there remains a need for the United States and NATO to continue to seek greater transparency about Russian TNWs. Although substantial data may be gleaned from the open sources and public statements made by officials, Russia and the United States have yet to formally declare the numbers and locations of their TNWs.

34. In 1991/1992, according to different sources, the Soviet Union/Russia possessed between 11,000 and 22,000 TNWs (the latter estimate is more likely). Some TNWs were deployed outside Russia – in Ukraine, Belarus, and Kazakhstan. As none of these newly independent states were willing to possess nuclear weapons, all of the TNWs were promptly returned to storage centres in Russia by May 1992. The Nunn-Lugar initiative was particularly effective in facilitating this process.

35. Initially, 2000 was the target year for the implementation of these commitments. This was later extended to 2002, and then to 2004, "on condition of adequate financing". However, during an October 2004 Moscow visit, US Assistant Secretary of State Stephen Rademaker noted that European publics were concerned about Russian tactical nuclear weapons in the region and that the Russian pledges of 1991-1992 had not been entirely fulfilled. The Russian Foreign Ministry responded by reiterating its May 2004 announcement that "more than 50 percent of the total nuclear ammunition for sea-based tactical missiles and naval aviation, anti-aircraft missiles, and nuclear aviation bombs has been liquidated." At this time, the ministry stated that "the reduction of tactical nuclear weapons is continuing."

36. Although there is no formal data on Russia's TNWs, *The Bulletin of the Atomic Scientists* indicates that approximately 3,400 operational warheads comprise Russia's non-strategic arsenal for use by tactical aircraft, naval forces, and ballistic missile and air defence systems. Several thousands exist in reserve or retired status.

37. Russia's reasons for retaining such high numbers of TNWs are related to the decline of Russia's conventional military forces and their inferiority to NATO and Chinese forces, which compels Russia to rely on battlefield nuclear munitions as an element of its deterrence against aggression. According to Russia's National Security Concept of January 2000, nonstrategic nuclear weapons might be used in a limited way to counter a conventional attack, without spurring a major

escalation to all-out nuclear use. Military exercises conducted by the Russian Ministry of Defence in recent years suggest that Russia would be unable to challenge massive invasions without resorting to nuclear weapons. For instance, in the exercise Zapad-99, enemy forces – NATO was heavily implied, in alliance with regional opponents of Russia – were beginning to overrun Russian territory. At the same time, they were using high-precision conventional weapons to attack strategic targets, such as nuclear power plants, on Russian territory. In response, Russia launched bombers armed with nuclear air-launched cruise missiles against enemy territory.

38. William Potter and Nikolai Sokov, the experts from the Center of Nonproliferation Studies in Monterey, suggest considering certain steps to reduce the threat posed by the TNWs. For instance:

- exchanging data on current numbers of TNW stockpiles by category (i.e., deployed, reserve/long-term storage, slated for elimination). It also would be useful to exchange data on the pace of TNW reductions since 1991 and the distribution of remaining TNWs by region.
- a freeze on both the number and location of TNW deployments. Such a freeze could apply initially to the area covered by the Conventional Forces in Europe (CFE) Treaty from the Atlantic to the Urals. A freeze that contained a provision for reciprocal on-site inspections could provide the basis for the reduction in and eventually the elimination of TNWs in the region covered by the freeze.
- to codify the existing declarations into a legally binding treaty, ideally with verification provisions.

#### E. SECURITY OF NUCLEAR WEAPONS MATERIAL

39. The security of Russia's vast stockpile of nuclear weapons-related material, such as HEU and plutonium, is of crucial importance due to its attractiveness to terrorists. According to various estimates, Russia is believed to have produced roughly between 180 and 185 tons of weapons-usable separated plutonium (civil and military) and close to 1,100 tons of HEU. Only half of nuclear fissile material storages were provided with some security upgrades, and only 26% received comprehensive security safeguards.

40. In January 2005, IAEA Director-General Mohamed ElBaradei warned that trafficking in Russian nuclear weapons material poses serious threats, and did not exclude the possibility that significant quantities of HEU had been acquired by terrorist groups. This concern has been reiterated by the US National Intelligence Council (NIC) in its Annual Report to Congress on the Safety and Security of Russian Nuclear Facilities and Military Forces. The report concluded that smuggling in weapons-usable nuclear material in Russia had occurred, and that it is "highly unlikely that Russian authorities would have been able to recover all the material reportedly stolen". Indeed, numerous cases of theft or smuggling attempts have been reported since 1992. For instance, in November 2003, a top official of the Russian enterprise that maintains Russia's nuclear-power icebreakers was sentenced for attempting to sell 2 pounds of uranium "yellowcake", a precursor to HEU. In 2000, Nikolay Kravchenko, head of the Russian Federation State Customs Committee, announced that, in that year, there were more than 500 incidents of illegal transportation of nuclear and radioactive materials across the Russian state border.

41. Russia's weapons-usable nuclear material is stored either at vast military R&D facilities, run by the Federal Agency for Atomic Energy, or small civilian research laboratories. Paradoxically, security at civilian institutes seems more reliable, despite chronic under-funding, mainly because "large fuel fabrication facilities have larger, varying inventories that are more difficult to account for and much harder to secure", NIC reports. In general, with respect to nuclear material protection, control, and accounting, NIC concludes that these practices "have been slowly improving over the last several years, but risks remain."

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42. The United States is again leading the international efforts to assist Russia in this area, although other Global Partnership member states, as well as the European Union, also contributed, or committed to contribute, significantly. The most significant projects include:

- Material Protection, Controls and Accounting (MPC&A). The material security-related American CTR projects are largely run by the Department of Energy (DoE). The DoE's MPC&A programme is actually the biggest CTR project, investing heavily (more than \$200 million in 2004 alone) in securing and accounting for Russia's nuclear weapons and materials. Initially, the programme aimed to complete comprehensive MPC&A upgrades on all weapons-usable nuclear material in Russia by the end of 2008, yet this goal can be achieved only if current efforts are significantly augmented. In 2002, largely thanks to the US efforts, a modern fissile material storage facility *Mayak* was constructed in Russia. This is expected to allow Russia to consolidate and safely store at least 25,000 canisters of plutonium and HEU from dismantled Russian nuclear weapons. Countries like the UK, Canada, Germany, Finland and some others also committed to assist in enhancing nuclear material storage safety. The progress has been much greater in installing upgrades at civilian than at military sites, due to the fact that Moscow and Washington still have unresolved issues regarding American access to Russian military sites. It is expected that the MPC&A will shift its emphasis from physical protection measures to improving the quality of site personnel.
- Repatriating all Russian-supplied HEU fuel to Russia. The United States committed to return all fresh Russian-origin HEU material located at research reactors on the territory of the FSU and elsewhere to Russia by the end of 2005, and to complete the repatriation of all Russianorigin spent fuel by 2010 from at least 12 countries. The IAEA plays a role in this process as well.
- The "Megatons to Megawatts Program" (launched in 1993) calls on Russia to convert 500 tonnes of HEU from dismantled nuclear warheads to LEU through the process of "downblending". Once down-blended to a "proliferation safe" level, LEU is not suited to sustain a chain reaction, but can be used as fuel to generate electricity. The LEU fuel is then purchased by the USA for use in power generation. As of 31 December 2004, 231,5 tonnes of weapon-grade HEU reportedly equivalent to more than 9,000 warheads had been downblended into 6,824 tonnes of LEU. Thus, this process is an effective non-proliferation tool, as the re-enrichment is highly sophisticated, and it is unlikely that terrorist groups could accomplish that.
- Securing weapon-grade *plutonium* in excess. In June 1994, Russia and the United States agreed to completely terminate production of weapons-grade plutonium and to progressively reduce their respective plutonium stockpiles. In September 2000 Russia and the United States agreed to irreversibly eliminate 34 metric tonnes each of weapons-grade plutonium. The DoE is facilitating the shutdown of three remaining Russian plutonium production reactors two in Seversk by 2008, and one in Zheleznogorsk by 2011. Russia also requires an alternative source of energy to be provided for the cities that depend on these reactors for power. The DoE anticipates completing construction of the MOX fuel fabrication facility in Russia by 2008, provided that the ongoing liability impasse is resolved.

The European Union plays a significant part in this area as well. The European Union's Joint Action on Disarmament and Non Proliferation in the Russian Federation, launched in 1999, in its nuclear part, deals predominantly with imposing safety regulations on the use of weapons-grade plutonium in the fuel cycle, and the programme of MOX fuel demonstration and licensing.

### III. BIOLOGICAL SECURITY

43. Russia has renounced its offensive biological weapons programs, but its vast biological research and development complex still exists. The doubts over its adequacy and security are not fully settled. In 2003, Assistant US Secretary for Verification and Compliance Paula A. DeSutter said that the United States "believe[s], based on available evidence, that Russia continues to

maintain an offensive BW program in violation of the Biological and Toxin Weapons Convention." A lot needs to be done in redirecting former weapons scientists to peaceful activities.

44. The major problem is that the samples of BW agents, being extremely portable, are not adequately protected against theft. According to Mr. Raymond A. Zilinskas, a prominent bioweapons expert from the Center for Nonproliferation Studies at the Monterey Institute of International Studies, "Some [deadly pathogens] are located at sites accessible to terrorist groups and criminal groups. The potential is that terrorists and criminals would have little problem acquiring the resources that reside in these facilities". The old antiplague stations often lack even the simplest security upgrades. The institutes were not officially part of the Soviet bioweapons complex, so they have been deemed ineligible for the aid from US and Western governments.

45. The Soviet Union started its BW program as early as the late 1920s. Early offensive research focused on variety of pathogens. Field tests, including open-air dissemination of these pathogens, were conducted on animals on numerous sites in Kazakhstan and Uzbekistan. Eventually, Vozrozhdeniye (or Rebirth) Island in the Aral Sea became a primary outdoor BW testing ground.

46. Despite signing the BWC in 1973, the Soviet Union engaged in a vast clandestine BW program, mainly under the aegis of Biopreparat, a civilian pharmaceutical conglomerate. The scope of this program was not realized by Western intelligence until two high-ranking Soviet BW scientists defected to the West. Vladimir Pasechnic and Kanadjan Alibekov confirmed that, at its height, the Soviet Union's BW program employed more than 60,000 workers in at least 55 facilities, and produced hundreds of tons of agents each month. But this massive program began to weaken during the late 1980s and was considerably downsized in the early 1990s.

47. It is likely that most scientists who worked in this sector in Soviet times knew nothing of their contributions to the weapons program. During the visit of the Sub-Committee on the Proliferation of Military Technology to Moscow in April 2005, Mr. Grigoryi Shcherbakov, the First Deputy Director General of Biopreparat, testified to the NATO parliamentarians that he had never seen a bioweapon during his long career at Biopreparat.

48. In 1992, Russian President Boris Yeltsin admitted to a Soviet offensive biological weapons program and signed a decree prohibiting all BW-related activity by the Russian Federation. Despite strong indications that Russian facilities have not taken this decree seriously. Yeltsin's admission opened the door to co-operation between the former Soviet facilities and the United States under the CTR agenda. By 1994, however, Russia had refused to grant accees for the US and UK delegations to facilities under the auspices of the MoD, raising concerns about the extent of Russia's deactivation of the Soviet BW complex. Despite such concerns, the West has been engaged in these co-operative efforts with Russia and the former Soviet states for more than a decade. The main contributors are:

- US programs. The United States remains by far the largest contributor. The US programmes are managed by the DoD (Biological Weapons Proliferation Prevention Program), the State Department (Bio-Industry Initiative, Bio-Chem Redirect Program) and the Energy Department (Initiatives for Proliferation Prevention). The US annual funding for these programmes is between \$90 and 100 million per year.
- EU programs. The European Union has primarily funded efforts to reduce the threat of biological weapons though contributions to the scientific centers in Moscow and Kyiv. In other aspects of biological threat reduction, the European Union is not contributing. However, the European Union should be encouraged by its record in regard to chemical weapons to move boldly into the BW field.
- Other Western contributors. According to official reports of a G-8 meeting in March 2004, the major projects were funded by the United Kingdom (\$405,000) and Sweden (\$130,000). However, the G-8 is expected to mount an intensified effort to reduce the threat posed by

biological weapons. Canada, for example, recently pledged in joining the *International Science and Technology Centers* (ISTC) programme that a significant portion of its \$13 million contribution would go toward such efforts. Likewise, British officials have pledged to increase funds. At the recent G-8 summit, France indicated that it would initiate a €5 million programme for biosecurity improvements at Russian laboratories.

49. During the past decade, important progress has been made on eliminating or converting BW infrastructure at the Biopreparat complex. In addition, some Biopreparat workers have been redirected to peaceful activities. By 2000 the United States had gained access to approximately 30 of the 50 non-military institutes formerly associated with Biopreparat, and a number of these laboratories had begun working on commercial biotechnology and pharmaceutical projects.

50. Still, spending is paltry both in comparison to US nuclear-related foreign assistance and to US domestic defences against biological weapons threats. To date, far less than one percent of the funds pledged to the Global Partnership have been committed to BW issues, and one must ask what accounts for this unsatisfactory situation.

51. Perhaps the major obstacle that hampers co-operation is the *lack of mutual trust and transparency*. A crucial sticking point is the unwillingness of the Russian government to permit Western access to several sensitive biological facilities. For example, relevant US State Department officers have been denied access to non-military sites of concern in an effort to provide ISTC-related assistance.

52. Despite pressing for more than a decade, the United States and allied nations have failed to gain access to or significant information about the Defense Ministry-controlled biological facilities. According to Russian-American Nuclear Security Advisory Council (RANSAC) information, there are currently four biological weapons facilities under the jurisdiction of the Russian Defence Ministry:

- The Centre of Virology in Sergiev Posad (formerly Zagorsk). This is the largest military biological facility managed by the Defence Ministry.
- The Centre for Military Technical Problems of Anti-Bacteriological Defence in Ekaterinburg (formerly Sverdlovsk). This facility is best known for the infamous anthrax outbreak of 1979, which killed 66 people.
- The Scientific Research Institute of Microbiology in Kirov. Under the Soviet Union, this facility was active in developing typhus, Q (Queensland) fever, tularemia, brucellosis, anthrax, and glanders. It also produced and stockpiled plague. Partial jurisdiction of it was recently transferred to the Ministry of Education, and it is believed to be the most commercially oriented of the sites.
- The Scientific Research Institute of Military Medicine in St. Petersburg. This is one of the leading centers for defence against chemical and biological weapons.

53. Senate Foreign Relations Committee Chairman Richard Lugar (R-Ind.) has been an outspoken critic of the Russian government's refusal to allow access to the Defence Ministry-run sites. In 2002, Lugar traveled to Kirov-200, but Russian officials barred him from entering the facility.

54. Russian officials argue that Russia's biological pathogen research is peaceful and that the country has no offensive biological weapons development program. They also refer to the US refusal to accept reciprocity. As a result, the US is reluctant to provide funds for biological threat reduction in Russia.

55. *Bureaucratic obstacles.* Bureaucratic inertia is another important factor that impedes cooperation. As Dr. William C. Potter of the CNS has put it, "for most countries, the issue of biological weapons is a remote and esoteric topic understood by few government experts, commanding little attention by senior policymakers (...). Given the low salience of the issue and the limited body of experts, even among the non-proliferation community within and outside of governments, it is not surprising that funding for BW non-proliferation activities lags well behind that for nuclear non-proliferation projects."

56. Undetermined number of BW scientists. Stopping the proliferation of biological weapons expertise from the former Soviet states is complicated by the difficulty in pinpointing key experts, particularly those with the knowledge to make a key contribution to a biological weapons programme. Glenn Schweitzer, the International Science and Technology Center's first executive director, stated that about 25,000 of those formerly engaged in the Soviet biological weapons complex represented a real proliferation risk. Mr. Shcherbakov of the Biopreparat admitted that the scientific staff of the Biopreparat shrank from 28,000 to mere 5,000. The whereabouts of the majority of the remaining 23,000 are not known.

57. The *undetermined number and identity* of biological warfare capabilities. This problem is not, of course, inherent only to Russia, and it is caused by the dual-use nature of biotechnology and the ease with which BW development can be camouflaged.

58. Possible *remedies*, as suggested by the RANSAC experts, include:

- Access. As a starting point, the United States and Russia could agree to a confidential exchange of updated information about former and current (defensively oriented) military facilities. This voluntary exchange of information could begin to establish a level of trust.
- Improving Transparency. Although gaining access to Russian military facilities is essential, there also is a need for greater access to Russian private-sector biological research facilities. The international community must be assured that private owners of these facilities have not bought them to pursue dangerous ends.
- Expanding the Effectiveness of Bio-Threat Reduction. Increased funding could be readily absorbed in some key areas such as scientist re-employment and product commercialization.
- Expanding the Research Agenda. New opportunities for biological weapons scientists need to be identified and funded. Much of the focus has been on employing scientists on biodefense projects, but there is also a need to focus even greater attention on the development and commercialization of affordable pharmaceuticals and research aimed at solving global health problems.
- *Emphasize Consolidation.* Rather than invest heavily in providing biosecurity upgrades at numerous sites, the material should be removed to a more secure facility elsewhere.
- Creating an EU Initiative. The European Union may be in a better position to acquire Russian trust and co-operation than the United States, as US-Russian relations in the BW sector have been tense.
- Ensuring Best Practices. There is a need to support training and education in pathogen security (biosecurity) and biosafety best practices and to reinforce ethical norms and codes of conduct as a tool to combat the misapplication of biology by scientists.

#### IV. CHEMICAL WEAPONS

59. This is another top priority area for the Global Partnership. With the collapse of the Soviet Empire, Russia inherited its enormous arsenal of chemical weapons (CW). Russia's declared CW Category I (i.e. the most dangerous) stockpile, at approximately 40,000 metric tons, was the world's largest CW arsenal. In 1993, Russia signed the Chemical Weapons Convention (CWC), and the Duma ratified it in 1997. The same year the convention entered into force, obliging the signatories to destroy (in a safe and environmentally friendly manner) their CW stockpiles not later than 10 years after the Convention's entry into force. The CWC allows, under exceptional circumstances, a 5-year extension (i.e. to April 2012) that Russia has requested and has been approved "in principle"

by the Organization for the Prohibition of Chemical Weapons (OPCW), with a specific date to be determined later. Compliance to the CWC provisions is verified by on-site inspections by the OPCW.

60. Russia's chemical weapons are stored at 7 sites, six of which are west of the Ural Mountains and one east. Five of these sites store deadly *Organophosphorous agents*, i.e. nerve agents such as sarin, soman and VX (about 32,500 metric tons, 80% of Russia's total CW stockpile). Two sites house the *Vesicants*, i.e. blister agents such as mustard, lewisite and lewisite-mustard mixture (about 5,500 metric tons, 20% of total stockpile). Most of the nerve agents remain in their weapons casings – artillery shells, rockets, bombs and spray tanks. The blistering agents are stored in bulk containers. So far, most of the CW destruction work has taken place at the Gornyi facility, dealing particularly with blistering agents. The facility to destroy nerve agents (the vast part of the CW stockpile) at Shchuch'ye is under construction, as well as a lewisite destruction facility at Kambarka.

- 61. Current achievements in destroying Russia's CW arsenal include:
- 330,000 unfilled CW munitions and buster charges have been destroyed; 3,800 CW munitions filled with phosgene have been destroyed (10,000 tons by agent weight); 643 tons of nerve/blister agents have been destroyed as of March 2004. Approx. 39,000 tons remain to be destroyed.
- Destruction facilities: one facility commissioned; 3 under construction. For 2005, approximately \$4,000 million have been allocated by Russia for this effort. The facility at Kambarka could become operational by 2006, while another at Shchuch'ye could become operational in 2008.
- Production facilities (24 total): 6 destroyed, 2 planned for destruction in 2007, 11 converted to non-prohibited use, and 5 still undergoing conversion (3 of which have been fully demilitarized).

62. So far, Russia has been able to successfully dispose of only a few hundred tons of chemical agents. By the end of 2004, Russia had destroyed less than 3% of its stockpile (by comparison, the US has destroyed more than 33% of its declared stockpile).

63. To speed up destruction, President Vladimir Putin signed the 2005 federal budget approved by the Duma and Federation Council into law on December 24, providing \$400 million for chemical weapons destruction, more than twice the \$186 million allocated in 2004.

64. Russian officials claimed that only a small portion of the funds designated by international donors for Russian chemical weapons disposal activities were being given to Russia; the rest was being used to monitor the use of the funds. However, the Kremlin's calculations do not actually show how, when and where international assistance is expended.

65. While the Russian authorities are the only body responsible for the implementation of CWC provisions, the international community has undertaken several steps to assist Russia in this financial and organizational effort. Most of the contributions are a product of the Global Partnership. The main international contributors are the United States, Canada, the European Union, the United Kingdom, France, Germany, Italy and a number of other countries. The US commitment is particularly impressive, as it plans to invest \$1 billion in the Shchuch'ye facility alone. The United Kingdom, Canada, Italy, Norway, New Zealand, Switzerland and the Czech Republic investments in Shchuch'ye are also very significant. Germany has contributed substantially, as it has been providing assistance for the CW destruction facility at Gornyi since 1993. The European Union, Finland and the Netherlands have also provided support for this project. In addition, Germany, together with the United Kingdom, the Netherlands and the European Union, provides assistance for the Kambarka facility.

66. The US-Russian co-operation in this area is impeded by inflexible formal agreements between the two countries. The agreement between the US DoD and the Russian Munitions Agency in September 2003 determined that all nerve agents would be destroyed at Shchuch'ye. However, this precondition requires Russia to transport chemical materials to Shchuch'ye over several hundred miles by rail (only 13% of all Russia's CW stockpiles are located in Shchuch'ye), thus significantly increasing both risks and costs. Moreover, The Shchuch'ye facility alone will not be capable of destroying all nerve agents stockpiled within the timetable of the CWC. Therefore, the officials and parliamentarians in both countries should consider amending the existing legal framework.

67. Russia's handling of the ill-fated hostage crisis in a Moscow theatre in 2002, specifically use of an incapacitating gas based on the drug fentanyl by Russian Special Forces units against the terrorists, has caused some speculations that the Russian Government had been clandestinely pursuing a CW program, thereby violating the CWC.

68. CW destruction assistance projects in Russia face a number of bureaucratic impediments. These include, inter alia: 1) recently imposed excessive security requirements to gain access to project sites; 2) absence of an officially approved overall Russian CW destruction plan; 3) lack of clarity regarding taxation; 4) difficulty in determining appropriate Russian subcontractors. Timely completion of assistance projects will depend upon further action by Russia to address these obstacles.

#### V. EXPORTS CONTROL

69. The primary goal of the international WMD non-proliferation effort is to prevent WMD or related materials from being stolen from operational, storage or research sites. However, if theft occurs, the international community has to be prepared to effectively interdict smuggling of these weapons or materials. In the area of exports control and anti-smuggling efforts in Russia, the United States and the European Union are two major international contributors. In a broader context, WMD non-proliferation is dealt with by the IAEA, the Proliferation Security Initiative (PSI) and other international initiatives. UN Security Council Resolution 1540, passed on 28 April 2004, is legally binding on all UN member states. This resolution obliges member states to take action to prevent the spread of WMD, particularly by nonstate actors, through strengthened border controls, better export controls, and other domestic laws.

70. The State Department and the DoD have developed their programmes to prevent illicit trafficking of WMD and relevant materials and technologies in the former Soviet Union:

- The State Department's Export Control and Related Border Security Assistance (EXBS) is a comprehensive programme which contributes to export controls by setting a necessary legal basis, establishing licensing procedures and provisions for enforcement capabilities, promoting interactions between governmental and non-governmental institutions, etc.
- The DoE's Second Line of Defense (SLD) aims at preventing illicit trafficking in, specifically, nuclear and radiological materials. The program assists Russia in installing communication and monitoring equipment in land border-control facilities, seaports and airports.

71. Indeed, these programs led to indisputable progress in assisting Russia to enhance its export control laws, licensing and industry compliance, as well as border-monitoring capabilities. Nevertheless, the success could be even greater if certain overlaps in functions were eliminated and co-ordination increased.

72. The European Union, through its TACIS program, assists Russia and other countries of the Community of Independent States (CIS) in enhancing border management and customs administrations.

#### VI. REDIRECTION OF WMD SCIENTISTS

73. Preventing the spread of malevolent know-how and scientific expertise is one of the key elements of a comprehensive strategy countering WMD proliferation. A number of Russian scientists, and even entire scientific cities, were and still are working in the WMD sector. As Russia suffered immense economic hardships in the 1990s, and the WMD sector was gradually shrinking, the threat of knowledge leakage became acute. The dramatic decline of the biotechnology sector has already been mentioned in the report. In addition, there is a large body of underpaid and underemployed missile technologists, as the current level of missile production is quite low. According to Vice Admiral Lowell Jackoby, the director of the Defense Intelligence Agency, "Russian entities support missile and civil nuclear programs in China, Iran, India, and to a lesser degree in Syria".

74. According to a survey in 2003, 20% of Russian scientists with weapons expertise would consider working for countries like North Korea, Syria, Iran, or Iraq. Therefore, it is essential to launch programs in order to engage WMD scientists in transparent and peaceful endeavours. A survey in 2001 indicated that 89% of Russian weapon scientists had suffered a decline in living conditions since 1992, and 58% had been forced to take second jobs to earn money. In 2000, some reports maintained that the Taliban sought to hire a Russian nuclear weapons scientist.

75. US efforts in this respect are considerably augmented by the European Union (through its TACIS program), by individual European states, especially the United Kingdom, and by Canada. The most important international assistance programs include:

- International Science and Technology Centers (ISTC) in Moscow and Ukraine. These centers are a product of a truly multilateral effort. The initiative was launched in 1992, by the United States (implemented by the State Department's CTR programs), the Russian Federation, the European Union, and Japan. Within the next 12 years, the program was joined by some other CIS countries, as well as Canada, Norway and South Korea. The ISTC provides grants for civilian research to tens of thousands of former WMD scientists, thereby eliminating the temptations to sell their knowledge to terrorist groups.
- Assisting other WMD-related research institutes in Russia and other FSU countries. The US
  Department of Energy's Initiatives for Proliferation Prevention (IPP) program is designed to
  foster co-operation and initiate common projects between weapons-related CIS research
  institutes and their American counterparts.
- Nuclear Cities Initiative (NCI). During the era of the Cold War, 10 Russian cities with over 700 thousand inhabitants were entirely engaged in WMD programs. In the 1990s, these programs shrunk considerably, causing uncertainty and security and social problems in these specific cities. The DoE's NCI assists in reducing nuclear weapons complexes and offering new job opportunities through the promotion of co-operation between the enterprises of these cities and American partners. The United Kingdom also contributes extensively, engaging in a number of projects in closed cities like Sarov, Seversk and Snezhinsk. Despite some progress, serious problems remain. The number of redundant nuclear scientists is growing faster than Russia and current international assistance can sustain. In addition, the climate for business development and investment in the closed cities is rather unfavourable. The cities also remain highly isolated and militarized.
- US BioIndustry Initiative (BII). The US State Department BioIndustry Initiative is the most recent, and only Congressionally mandated nonproliferation programme in the former Soviet Union which seeks to reconfigure large-scale former Biological Weapons production facilities to peaceful commercial use. Working with former weapons scientists, BII also develops novel drugs and vaccines to highly infectious diseases, thus increasing national biodefense measures against terrorist attack. BII is a critical program in the US efforts to reduce terrorist access to former BW and CW weapons capacities in the FSU, and plays a significant role

developing transparent, peaceful exit strategies for US Government funding of former weapons scientists.

 Bio-Chem Redirect Program. This is a large US State Department program, designed to redirect former Soviet biological and chemical weapons scientists to transparent and sustainable civilian research projects with US collaborators. The programme succeeded, for instance, in developing joint US-Russian peaceful scientific projects to fight smallpox, HIV and Foot-and-Mouth Disease.

#### VII. CONCLUSIONS

Since the end of the Cold War, weapons of mass destruction have no longer been considered 76. to be the main tool to maintain the balance of power between the world's major nations. The nuclear arsenals are subjected to gradual reduction, whereas chemical and biological weapons are explicitly banned by the civilized world. However, the beginning of the new century is marked by a substantial rise in terrorism. As the attacks in the United States and Madrid and London as well as the school hostage crisis in the North Caucasus clearly showed, the modern-day terrorist groups are not restrained by any moral principles, and would not hesitate to use any means, including weapons of mass destruction. For example, in November 2004, Shamil Basayev, the leader of the Chechen fighters who claimed responsibility for the ill-fated siege at a school in Beslan, reportedly stated he would use any means, including chemical and biological weapons against civilians, to force Russia to end the war in the Chechnya and grant Chechnya independence. The possible magnitude of the nuclear terrorism threat was visibly demonstrated to the members of the Assembly during the Black Dawn exercise at the spring session in Ljubljana, Slovenia. Technologically, these groups might not yet be capable of producing WMDs themselves; so existing stockpiles are of particular interest to them. The security of these stockpiles is therefore probably the biggest contemporary security concern. Russia is naturally in the spotlight, as its WMD stockpiles are the largest in the world, and their protection is far from perfect.

77. The international community, and especially the United States, responded responsibly and with enthusiasm. Billions of dollars as well as equipment and expertise were provided to Russia and other former Soviet states by a variety of international programs. In 2002, the Global Partnership was established and remarkable commitments were made.

78. However, your Rapporteur shares the concerns of those who believe that additional efforts are urgently needed. Both the donor countries and Russia could co-operate much more efficiently if certain obstacles were removed. Russia's reluctance to allow full access to a number of facilities can only be explained as a relic of Cold War mindsets. The lack of progress in this respect was probably a major stumbling block for the implementation of significant programmes in Russia. The sensitivity of the issue is understandable, yet on the other hand, donor countries, being democracies, need to justify spending to their people. In order to induce the Russian government to change its attitude, one needs to treat Russia as an equal partner, rather than just a recipient, involving more extensively Russian officials and experts in all stages of the conception, design, implementation, and evaluation of these programs. This would be a signal that CTR and the Global Partnership are not intended to harm Russia's security interests, but are rather designed to fight the common threat of terrorism.

79. Besides the access issue, the Russian government would also facilitate co-operation by granting tax exemptions and liability protections, as well as improving general functioning of its bureaucratic machine. With respect to the funding issue, Moscow's decision to substantially increase spending on chemical weapons destruction can only be welcomed. However, your Rapporteur believes that further increases in Global Partnership funding by Russia would greatly boost the West's willingness to co-operate. Indeed, as Russia's economy is reportedly growing at an impressive rate, this should be reflected in a growth in Russia's contribution. Some opponents in the

sponsor countries claim that the Global Partnership allows Russia to save money and spend it on developing new nuclear weapons.

80. While two of the Partnership's priority areas, submarine dismantlement and CW destruction, receive adequate attention, the highly important issues of tactical nuclear weapons and biological security are somewhat neglected. Your Rapporteur wishes to emphasize that these two issues should be placed at the top of the Partnership's agenda. Tactical nuclear weapons need to be accounted for and their destruction thoroughly monitored. With respect to biological weapons, the international community needs to be assured that Russia had fulfilled its commitment to completely eliminate its offensive BW arsenal.

- 81. Your Rapporteur also recommends that relevant actors:
- Enhance co-ordination of different projects, strengthening the role of Global Partnership's Senior Nonproliferation Officials Group;
- Enhance co-operation within governments and between the different institutions entrusted with the implementation of the projects;
- Emphasize sustainability, i.e., to prepare Russia to secure dangerous materials by itself in the future;
- Accelerate the pace of destruction of retired nuclear weapons, their launching assets and decommissioned submarines;
- Accelerate the pace of HEU down-blending, including the involvement of the European countries;
- Pay particular attention to the issue of redirection of WMD scientists, as this problem is likely to become even more severe in future;
- Urge other countries to join the Partnership, referring to the universality of the issue and the need for additional funds;
- Increase the European Union's involvement for a number of reasons: its experience in mobilization of resources and efforts of different countries; its developed co-ordination tools, and, above all, its higher trustworthiness in comparison to the United States in the eyes of Russian politicians.

82. Your Rapporteur shares the view of Kenneth Luongo and William Hoehn of the Russian American Nuclear Security Advisory Council, that the agenda of the non-proliferation efforts should be strengthened and expanded into other regions and countries. The 'co-operative threat reduction' activities should, therefore, develop into global 'co-operative non-proliferation prevention'. Therefore, the Global Threat Reduction Initiative (GTRI), launched by the US Department of Energy in May 2004, can only be welcomed. The GTRI offers the potential to apply the techniques, developed for the FSU, in other countries and regions of the world.

83. Your Rapporteur also firmly believes that the common efforts to eliminate dangers stemming from Russia's WMD complex would be enormously augmented by progress in other international initiatives, such as the Proliferation Security Initiative, the Comprehensive Test Ban Treaty, the Fissile Material Cut-Off Treaty and efforts to strengthen verification tools of the Biological and Toxin Weapon Convention.