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NATO and Russia experiences with nuclear transparency and confidence-building measures

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Foundations of the NATO-Russia dialogue on TCBMs

TCBMs are on the NRC agenda and have been agreed and implemented between Russia and the United States. The Strategic Concept, adopted in November 2010 at the Lisbon Summit, provides the current political framework for engaging Moscow in talks on TCBMs. Allies lament Russia's lack of transparency on non-strategic nuclear weapons[1] and state that "in any future reductions, our aim should be to seek Russian agreement to increase transparency on its nuclear weapons in Europe and relocate these weapons away from the territory of NATO members."[2]

The Deterrence and Defence Posture Review report, adopted at the May 2012 Chicago Summit, establishes a practical framework for and defines the purpose of further debates on TCBMs within the Alliance. In Chicago, the allies stated that they "look forward to continuing to develop and exchange transparency and confidence-building ideas with the Russian Federation in the NRC, with the goal of developing detailed proposals on and increasing mutual understanding of NATO's and Russia's non-strategic nuclear force postures in Europe."[3]

NATO tasked the Special Advisory and Consultative Committee on Arms Control, Disarmament and Non-Proliferation to determine its expectations vis-a-vis Russia "to allow for significant reductions in forward-based non-strategic nuclear weapons assigned to NATO."[4] However, NATO allies all but rule out unilateral moves by stating that any future steps on further reducing its requirement for US nuclear weapons in Europe must take "into account the greater Russian stockpiles of non-strategic nuclear weapons stationed in the Euro-Atlantic area."[5] Simultaneously, Allies "encourage the United States and the Russian Federation to continue their mutual efforts to promote strategic stability, enhance transparency, and further reduce their nuclear weapons."[6]

Mikhail Ulyanov, director of the Russian Foreign Ministry department for security and disarmament, recently reiterated the long-standing Russian position that prior to any negotiations on non-strategic nuclear weapons, U.S. nuclear weapons stationed in Europe shall be withdrawn back to the U.S. territory and the related nuclear infrastructure needs to be irreversibly eliminated.[7]

TCBMs are also an issue of a broader international agenda. The importance of transparency and confidence building measures is displayed as a conducive to further steps towards nuclear disarmament.[8] In the 2010 Treaty on the Non-Proliferation of Nuclear Weapons (NPT) Review Conference Action Plan, the 189 NPT member states, including the five nuclear-weapon states (NWS), committed themselves to "further enhance transparency" in order to accelerate progress on nuclear disarmament. The NPT NWS, which include the four NRC members France, Russia, the United Kingdom and the United States, promised to report relevant achievements at the NPT Preparatory Committee in 2014, which will take place 28 April – 9 May in New York.[9]

Developing a common terminology

The main aim of TCBMs is to guard against misunderstandings and dispose suspicion in order to build predictability and provide reassurance about intentions. TCBMs also serve as a symbol of good faith and will to cooperate. They can prepare the ground for more intrusive steps aimed at future arms control and disarmament treaties. Two types of transparency, security and confidence building measures can be distinguished:

- transparency measures and

1 The author uses the term "non-strategic" nuclear weapons, but the terms "tactical" and "sub-strategic" used in citations shall be understood as substitution.
2 *Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organization: Active Engagement, Modern Defence*, 19–20 November 2010, www.nato.int/strategic-concept/pdf/Strat_Concept_web_en.pdf (accessed 12.03.2014).
3 *Deterrence and Defence Posture Review*, 20 May 2012, www.nato.int/cps/en/natolive/official_texts_87597.htm?mode=pressrelease (accessed 12.03.2014).
4 Ibid.
5 *Strategic Concept* (see note 2).
6 *Deterrence and Defence Posture Review* (see note 3).
7 *Russia won't disclose info tactical nuclear weapons' quantities or location – Foreign Ministry*, 2 February 2014, http://voiceofrussia.com/news/2014_02_02/Russia-wont-diclose-info-tactical-nuclear-weapons-quantities-or-location-Foreign-Ministry-8907/ (accessed 12.03.2014).
8 *2010 Review Conference of the Parties to the Treaty on the NON-Proliferation of Nuclear Weapons; Final Document*, 2010, www.un.org/ga/search/view_doc.asp?symbol=NPT/CONF.2010/50%20(VOL.I) (accessed 12.03.2014), p. 24.
9 See Max M. Mutschler, *Lessons learned from past experiences with transparency and confidence-building measures*, Berlin: Stiftung Wissenschaft und Politik, FG03-WP No 03,April 2014.

- actions imposing military constraint on parties.[10]

Transparency measures improve communication and understanding among participants. They range from exchanges of information to observation of declared activities, for example through on-site activities and/or remote monitoring. Actions imposing military constraint include the relocation of arsenals and altering the alert status of nuclear weapons.

Additionally, states can also introduce measures that relate to the safety and security of certain weapons. These include, inter alia, observing relevant exercises and holding joint training.

Elaborating mutual comprehension of TCBMs is a task assigned to the NRC Expert Group on Terminology. The group is dedicated to develop English-Russian and Russian-English glossaries of terminology to improve the understanding of concepts used by NATO and Russia. Linguistic cooperation exists since 1998. The group is co-chaired by Radoslava Stefanova, Head of Russia and Ukraine Relations in the Political Affairs and Security Policy Division of NATO, and retired Colonel Sergey Stepanov, Head of English language Department at the Military University of the Russian Defence Ministry.[11]

In 2011, the NRC EGT published the NRC Consolidated Glossary of Cooperation[12] as the continuation of the NATO-Russia Glossary of Contemporary Political and Military Terms published in 2001.[13] It is the result of ten years of cooperation between NATO, the Russian Federation Ministry of Defence, the NATO-Russian Language Service (RLS) and the Russian Federation Ministry of Defences' Military University in Moscow.[14] The 2011 glossary contains 760 pages and covers approximately 8,000 terms[15] from which some 200 are used in the nuclear field. It, however, is not a comprehensive work and leaves many issues of concern without definition, providing only a brief word-to-word translation.

According to the NRC members, confidence and security building measures (CSBMs) are "provisions for the exchange and verification of information regarding the participating states' armed forces and military activities, as well as certain mechanisms promoting cooperation among participating states with regard to military matters in order to promote mutual trust and dispel concern about military activities by encouraging openness and transparency."[16] NRC members generally identified several types of CSBMs (not necessarily related to the nuclear field only) including:

- annual exchange of military information,
- mechanisms for consultation and cooperation with regard to unusual military activities,
- provisions regarding military contacts and cooperation,
- prior notification and observation of certain military activities,
- exchange of annual calendars of military activities,
- constraints on military activities,
- compliance and verification measures,
- network of direct communications between capitals,
- annual implementation assessment meetings and
- global exchange of military information.[17]

Institutional settings of the NATO-Russia dialogue on nuclear-related TCBMs

NATO and Russia formalized their post-Cold War relations in the 1997 "Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation." The document identified particular areas for consultation and cooperation, including "reciprocal exchanges, as appropriate, on nuclear weapons issues, including doctrines and strategy of NATO and Russia."[18] The Founding Act established the

10 Jozef Goldblat, *Arms Control. The New Guide to Negotiations and Agreements*, 2. Ed., London 2003, p. 11.

11 *NRC Terminology Experts Meet,* 14.02.2013, www.nato-russia-council.info/en/articles/20130214-nrc-terminology-experts/ (accessed 12.03.2014).

12 *NATO-Russia Council Consolidated Glossary of Cooperation,* 2011, www.nato-russia-council.info/media/60018/nrc_consolidated_glossary_part_1_en-ru_.pdf (accessed03.03.2014).

13 *NATO-Russia Glossary of Contemporary Political and Military Terms*; NATO Publications; 28.05.2002; www.nato.int/docu/glossary/eng/index.htm (accessed 12.03.2014).

14 *NATO-Russia Council Consolidated Glossary* (see note 12).

15 *Practical Cooperation Fact Sheet*; 10.2013, www.nato-russia-council.info/media/104666/nato-russia_council_factsheet_final_2013-11-07_trilingual.pdf (accessed 12.03.2014), p. 12.

16 *NATO-Russia Council Consolidated Glossary* (see note 12), p. 81.

17 Ibid., p. 81.

18 *Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation*, 1997, www.nato-russia-council.info/media/59451/1997_nato_russia_founding_act.pdf (ac-

Permanent Joint Council, to work, inter alia, on confidence-building measures.

Several meetings of the PJC were devoted to nuclear issues. At a 24 October 1997 meeting in Brussels, ambassadors exchanged views on measures to promote cooperation, transparency and confidence between NATO and Russia. They agreed that meetings of experts will prepare consultations on nuclear weapons issues.[19] At several meetings between 1997 and 2002, NATO and Russia representatives discussed political and defence efforts against the proliferation of nuclear, chemical or biological weapons and their methods of delivery, and exchanged views and information on nuclear weapons.[20]

In 2002, the Alliance members and Russia replaced the PJC with the NATO-Russia Council.[21] In the Rome Declaration, NATO member states and Russia confirmed their willingness to intensify cooperation on non-proliferation, arms control and confidence-building measures.[22]

The NRC works on different levels. NATO and Russia heads of state and government meet during NATO summits, foreign and defence ministers meet twice a year. Ambassadors from NATO and Russia convene on a monthly basis. The work program of the NRC is agreed every year. The NRC works on the basis of consensus.[23]

The NRC also operates in the format of working groups with their own agenda and schedules.[24] In the area of nuclear TCBMs three working groups, which are attended by diplomats from NATO missions and capitals, are particularly relevant in the context of nuclear confidence-building:

- the NRC Defence Transparency, Strategy and Reform Working Group (DTSR),
- the NRC Arms Control, Disarmament and Non-Proliferation Working Group (ADN) and
- the NRC Expert Group on Terminology (EGT).

The DTSR, chaired by the NATO Assistant Secretary General for Defence and Policy Planning, combines the mandate of two former PJC groups – the Working Group on Defence Reform and Cooperation (REF) and the Nuclear Experts Working Group (NUCL). Its members exchange views and discuss doctrinal and strategy-related matters as well as experiences on the implementation of respective defence reforms.[25] In July 2013, Under Secretary for Arms Control and International Security Rose Gottemoeller praised the DTSR and expressed the hope that NATO "should continue, day to day, to do good work to increase transparency."[26]

Starting in December 2009, the Arms Control, Disarmament and Non-Proliferation Working Group (ADN) commenced work assuming responsibilities of the NRC Conventional Arms Control Experts Working Group (ACE) and the NRC Ad Hoc Proliferation Issues Working Group (PROL). The ADN, which is chaired by the Head of the Arms Control and Coordination Section at NATO, discusses issues related to conventional arms control[27] as well as proliferation trends, concerns and possibilities to cooperate.[28] In particular, it focuses on the proliferation of weapons of mass destruction and their means of delivery, and reviews areas in which NRC members could work politically to promote effective multilateral arms control, disarmament, and non-proliferation efforts.[29] In 2013, the ADN hosted several briefings on the current status of international and bilateral treaties, like the CTBT[30],

cessed 12.03.2014), p. 11.

19 *Meetings of the Permanent Joint Council*; NATO Parliamentary Assembly, www.nato-pa.int/default.asp?SHORTCUT=232 (accessed 12.03.2014).

20 These meetings took place on 24 November 1997, 25 March 1998, 30 October 2000, 9 November 2000, 13 December 2000, 19 September 2001, 27 February 2002 and 29 April 1998. Ibid.

21 For more on the historical background, see Simon Lunn; *The NATO-Russia Council: Its Role and Prospects*; European Leadership Network; November 2013, (Policy Brief), p. 4.

22 *NATO-Russia Council Rome Declaration*, 28.05.2002, www.nato-russia-council.info/media/59487/2002.05.28_nrc_rome_declaration.pdf (accessed 12.03.2014), p. 4.

23 *NATO Russia A pragmatic Partnership,* 2007, http://scoalanato.files.wordpress.com/2010/03/nato-russia-2.pdf (accessed 12.03.2014), p. 6.

24 *The NATO-Russia Council* (see note 22), p. 5.

25 *New NRC Committee Structure,* 2011, www.nato-russia-council.info/en/articles/2011-01-10-nrc-statement-09/

26 Ibid.

27 Ibid.

28 *Weapons of Mass Destruction*, www.nato.int/cps/fr/natolive/topics_50325.htm?selectedLocale=en) (accessed 12.03.2014).

29 *Media Backgrounder: NRC Practical Cooperation*, 10. 2010, www.nato.int/nato_static/assets/pdf/pdf_2010_11/2010_11_FD8A79D3304F4BF6883A61E04D31FEEE_20101120-NRC-Backgrounder.pdf (accessed 12.03.2014).

30 On 6 November 2013 the NRC hosted a briefing by Ambassador Balázs Csuday, the Permanent Representative of Hungary to the UN in Vienna, as well as a briefing by Ms Anna Selezneva, an expert from the Department for Security and Disarmament at the Russian Ministry of Foreign Affairs; Reg-

the NPT[31], a joint briefing by the United States and Russia on New START implementation as well as briefings on international nuclear initiatives, like the Global Initiative to Combat Nuclear Terrorism and the Proliferation Security Initiative. According to a NATO summary, several delegations describe the NRC ADN as a "robust cycle of meetings on key topics" and state their hope that this process will continue.[32] Gottemoeller recently described the ADN as one forum where Russia and NATO "have been able to engage in a constructive dialogue on issues of mutual interest."[33]

1. Information Exchanges on Nuclear Doctrines and Definitions

The NRC NUCL and its successor the DTSR have so far hosted four expert seminars on nuclear doctrines and strategies. The first event took place on 6–7 July 2005, when the German Ministry of Defence hosted a seminar under the auspices of the NRC[34] at the George C. Marshall European Center for Security Studies in Garmisch-Partenkirchen (Germany). The seminar, which was attended by officials and experts from NRC nations as well as NATO International Military Staff and International Staff, focused on the role of nuclear weapons in NATO's nuclear strategy as well as in national doctrines and strategies of NRC nuclear weapon states. France, Russia, the United Kingdom and the United States presented summaries of their respective nuclear doctrines. NATO officials presented the Alliance nuclear doctrine within the framework of the 1999 Strategic Concept.[35]

NRC DTSR organized the second seminar in November 2009, in Oslo.[36] On the agenda were NATO and national NRC nuclear weapons states' nuclear doctrines and strategies. Each of the four NRC nuclear powers and NATO gave comprehensive presentations on their nuclear doctrines. In addition, a number of academics presented their views on deterrence related subjects.[37]

27–28 October 2011, the NRC DTSR organized the third seminar in Oberammergau, Germany.[38] Participants, who included representatives of 19 NRC nations and NATO staff, discussed the role of nuclear forces in nuclear weapon states' doctrines and strategies as well as in NATO's Strategic Concept. They also exchanged views on emerging risks and threats, evolving security requirements and associated consequences for NATO and Russian security.[39] According to a NRC press note, "all participants agreed that such seminars, which promote collegial dialogue on nuclear weapons issues, should take place on regular basis."[40]

The most recent seminar, attended by over 70 experts and senior staff from NRC nations took place on 26–27 June 2013 in The Hague.[41] Issues on the agenda included ways to create the conditions needed to advance nuclear disarmament.[42] Officials from the United Kingdom, the United States, France, Russia and NATO provided briefings on national and Alliance nuclear policy.[43] Russia's Ambassador to NATO, Alexander Grushko, concluded that the seminar was "instrumental in promoting confidence, predictability and understanding among NRC nations with regard to new aspects of nuclear postures."[44] According to Gottemoeller, reciprocal sharing of information on military postures, doctrines and activities is "what the United States considers to be the "bread and butter" of the NATO-Russia Council (NRC)."[45]

2. Data exchanges

While Russia and the United States have an established history in bilaterally exchanging data on stra-

ular dialogue on ADN continues, *Regulardialogue on ADN continues,* 2013, www.nato-russia-council.info/en/articles/2013-11-13-nrc-adn/ (accessed 12.03.2014).

31 The briefing took place on May 2013 by the Chairman of the NPT Preparatory Committee Ambassador Cornel Feruta from Romania, Ibid.

32 Ibid.

33 *Remarks at the NATO-Russia Council Ambassadorial Annotated Agenda Remarks*, Brussels, 24.07.2013, www.state.gov/t/us/212489.htm (accessed 12.03.2014).

34 *NATO-Russia Chronology of Activities*, 2005, www.nato-pa.int/default.asp?SHORTCUT=914 (accessed 12.03.2014).

35 *NATO-Russia Council seminar on nuclear doctrine and strategy*, NATO Update, 5.10.2005, www.nato.int/docu/update/2005/07-july/e0706b.htm (accessed 12.03.2014).

36 *NATO-Russia experts discuss nuclear doctrine and strategy*, 2011, www.nato.int/cps/en/natolive/news_80884.htm?selectedLocale=en (accessed 12.03.2014).

37 *Media Backgrounder: NRC Practical Cooperation*, (see note 29).

38 *NATO-Russia experts discuss* (see note 36).

39 Ibid.

40 Ibid.

41 *Netherlands' Foreign Minister discusses nuclear seminar*, 2013, www.nato-russia-council.info/en/articles/20130701-nrc-nuclear-seminar/ (accessed 12.03.2014).

42 *Ambassador Grushko speaks about NRC nuclear seminar*, 2013, www.nato-russia-council.info/en/articles/20130710-nrc-nuclear-grushko-interview/ (accessed 12.03.2014).

43 Ibid.

44 Ibid.

45 *Remarks at the NATO-Russia Council Ambassadorial* (see note 33).

tegic nuclear weapons stockpiles to verify different nuclear arms control and disarmament treaties, no such experience on direct information exchanges on nuclear holdings exists between NATO and Russia.

U.S. President George H.W. Bush and Soviet President Mikhail Gorbachev, in 1991, as well as Boris Yeltsin and George H.W. Bush in 1992, announced the Presidential Nuclear Initiatives (PNIs) aimed at withdrawal and partial elimination of non-strategic nuclear weapons. The initiatives did not include provisions for data exchange and verification. Thus, they are unmonitored political declarations. The United States and Russia have since made unilateral declarations with regard to implementation of the PNIs, yet no formal exchange of such data exists.

At the May 2010 NPT review conference, U.S. Department of Defense for the first time publicly declared the size of the U.S. nuclear weapons stockpile (5,113 warheads as of 30 September 2009) and stated in that context that the total "number of U.S. nonstrategic nuclear weapons declined by approximately 90 percent from September 30, 1991 to September 30, 2009."[46]

Russia has stated that it has dismantled 75 percent of its Cold War stockpile of non-strategic nuclear weapons.[47] During the 2000 NPT Review Conference then-Russian Minister of Foreign Affairs, Igor Ivanov, provided details:

> "Russia also continues to consistently implement its unilateral initiatives related to tactical nuclear weapons. Such weapons have been completely removed from surface ships and multipurpose submarines, as well as from the land-based naval aircraft, and are stored at centralized storage facilities. One third of all nuclear munitions for the sea-based tactical missiles and naval aircraft has been eliminated. We are about to complete the destruction of nuclear warheads from tactical missiles, artillery shells and nuclear mines. We have destroyed half of the nuclear warheads for anti-aircraft missiles and for nuclear gravity bombs."[48]

The United States and other NATO countries have repeatedly expressed doubts whether Russia has fulfilled its obligations under the PNIs.[49]

In NATO's 1999 Strategic Concept Allies had stated their will to contribute to the "development of arms control, disarmament, and non-proliferation agreements as well as to confidence and security-building measures."[50] Subsequently, NATO allies developed a range of CSBM-options on mutual information and data exchange. The outcome of these considerations was the Report on Options for Confidence and Security Building Measures (CSBMs), Verification, Non-Proliferation, Arms Control and Disarmament, an unclassified version of which was published in December 2000.[51] The report suggested four specific CSBM proposals to pursue with Russia:

1. Enhance and deepen dialogue on matters related to nuclear forces,
2. Exchange information regarding the readiness status of nuclear forces,
3. Exchange information on safety provisions and safety features of nuclear weapons, and
4. Exchange data on U.S. and Russian substrategic nuclear forces.[52]

Details of the report can be found in Appendix 1. Proposals included in the report were discussed within the NRC at the ambassadorial level on 23 May and 29 November 2001 in Brussels.[53] Under the George W. Bush administration, however, discussions on arms control in the NATO context came to an end.

Most recently, on 18 March 2013, the NRC also hosted a joint US-Russian briefing on the implementa-

46 *Fact Sheet*, May 3.05. 2010, www.defense.gov/npr/docs/10-05-03_Fact_Sheet_US_Nuclear_Transparency__FINAL_w_Date.pdf (accessed 12.03.2014), p. 1.

47 *Russia won't disclose info tactical nuclear* (see note 7).

48 *Statement by H.E. Mr. Igor S. Ivanov, Minister of Foreign Affairs of the Russian Federation at the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, 25.04.2000, www.fas.org/nuke/control/npt/news/00_04_25.htm (accessed 12.03.2014).

49 Rose Gottemoeller, "Eliminating Short-Range Nuclear Weapons Designed to Be Forward Deployed", in: George P. Shultz/Steven P. Andreasen/Sidney D. Drell/James E. Goodby (Ed.), *Reykjavik Revisited: Steps Toward a World Free of Nuclear Weapons*, Stanford, 2008, p. 107–158, 126.

50 *The Alliance's Strategic Concept*, 24.04.1999, www.nato.int/cps/en/natolive/official_texts_27433.htm (accessed 12.03.2014).

51 Report on Options for Confidence and Security Building Measures (CSBMs), Verification, Non-Proliferation, Arms Control and Disarmament, December 2000, www.nato.int/docu/pr/2000/p00-121e/rep-csbm.pdf (accessed 12.03.2014).

52 Ibid., p. 23–25.

53 *Chronology of Events: NATO-Russia Permanent Joint Council* (Through 2002), 2002, www.nato-pa.int/default.asp?SHORTCUT=232 (accessed 12.03.2014).

tion of the New START Treaty.[54] Russia was represented by Mr. S.M. Koshelev, Chief of the Main Department of the International Military Cooperation in the Russian Ministry of Defence, while the United States was represented by A.E. Friedt, Principal Deputy Assistant US Secretary of State for Nuclear and Strategic Policy.

Also under the 2011 New START Treaty verification measures include data exchanges and notifications related to strategic offensive arms and facilities covered under the treaty as well as an annual exchange of telemetry on an agreed number of ICBM and SLBM launches. In this framework, the United States and Russia up to date exchanged 5,997 notifications through their Nuclear Risk Reduction Centers via a secure government-to-government communications link.[55] Additionally, comprehensive databases of strategic forces covered by the treaty are exchanged every six months. Along information exchanges, the Bilateral Consultative Commission discusses and settles issues arising in connection with the implementation of the New START Treaty.[56]

In general, both sides perceive exchanges of information as a crucial element of building trust between parties. Gottemoeller mentioned recently that the New START Treaty implementation process demonstrates "that the Treaty's verification regime works, and is providing the predictability and mutual confidence that it promised."[57]

3. Cooperation to Improve the Safety and Security of Nuclear Arsenals

"Nuclear safety issues, across their full spectrum" were one of the topics that NATO and Russia had identified already in the 1997 NATO-Russian Founding Act.[58] Yet, as far as open source information reveal, it took five years before NATO and Russia began to cooperate on efforts aimed at building confidence on the wide range of capabilities to respond effectively to emergencies involving nuclear weapons. At the heart of this cooperation were four large exercises in the four NRC nuclear weapon states. These exercises, which took place between 2004–2007, were breaking new ground: never before had Russian and NATO officials and experts jointly observed drills that touched on such sensitive aspects of nuclear weapons procedures. In addition, NRC members jointly attended one table top exercise and conducted two seminars and one meeting dealing with safety and security of nuclear weapons.[59]

The first seminar on nuclear accidents and incidents took place in April 2002 when the NRC held an event on nuclear weapon safety and security in The Hague.[60]

Russia hosted the first exercise on nuclear safety and security. On 3–5 August 2004, the Russian Ministry of Defence invited NRC experts to the nuclear-weapons-accident-response field exercise "AVARYIA" near the town of Olenegorsk in the Murmansk region.[61] The exercise focused on protecting and defending nuclear weapons convoys and responding to terrorist attacks.[62] Three separate scenarios were played out. Two of them simulated a terrorist attack on truck and rail convoys. Convoy guards demonstrated their ability to repel the terrorist attempt to capture nuclear warheads ahead of the arrival of the main response force, which was equipped with helicopters and armored vehicles. The third scenario involved divers searching for and recovering from a submerged vehicle a container holding a mock nuclear weapon.[63] The exercise involved over 1,000 participants, including some 700 servicemen of the Russian Ministry of Defence.[64] Sergei Ivanov, then-Russian Minister of Defence, representatives of the Russian Duma together with 50 experts from 17 NATO countries and NATO Headquarters attended the demonstration.

54 *On the US-Russian briefing in the NATO-Russia Council on implementation of the New START Treaty*, The Permanent Mission of Russia to NATO, 19.03.2013, http://natomission.ru/en/cooperation/current/show/140/ (accessed 12.03.2014).
55 *New START*, http://www.state.gov/t/avc/newstart/index.htm (accessed 25.03.2014).
56 *On the US-Russian briefing in the NATO-Russia Council on implementation of the New START Treaty*; 19.03.2013, http://natomission.ru/en/cooperation/current/show/140/ (accessed 12.03.2014).
57 Rose Goettemoeller, *Priorities for Arms Control Negotiations Post-New START*, 21.02.2013, www.state.gov/t/us/205051.htm# (accessed 12.03.2014).
58 *Founding Act on Mutual Relations* (see note 18), p. 10.
59 *Practical Cooperation Fact Sheet* (see note 15).
60 *NATO-Russia Council seminar on nuclear doctrine and strategy* (see note 35).
61 *NRC Nuclear Safety Exercises: 10 Years 10 Stories Anniversary Feature*, 2012, www.nato-russia-council.info/en/articles/20121108-nrc-10-years-nuclear/ (accessed 12.03.2014).
62 *Nuclear weapons accident response exercise held in Murmansk region*, 25.08.2004; www.nato.int/docu/update/2004/08-august/e0803a.htm (accessed 12.03.2014).
63 Ibid.
64 Ibid.

A military site near Edinburgh, Scotland was the venue of the second exercise on nuclear safety and security under the NRC auspices. On 14–15 September 2005 NRC member states observed the nuclear weapon accident response exercise "Senator", which demonstrated the United Kingdom's capacities to safeguard nuclear convoys. The scenario simulated an accident involving a nuclear weapon road convoy that resulted in the release of radioactive material[65] on the Edinburgh City bypass.[66] Its aim was to test the effectiveness of the UK Ministry of Defence's Nuclear Accident Response Organisation and the ability of the civilian emergency services and local authority to cope with the effects of such an event.[67] The exercise, which was observed by nearly sixty civilian and military experts from 20 NATO countries, Russia and NATO Headquarters, involved over 700 staff, including some 200 servicemen of the UK Army and Royal Air Force as well as 100 members of local government and the emergency services.[68]

On 20–22 June 2006, 45 military and civil invitees from the NRC Group of Nuclear Experts[69] observed a US nuclear-weapons-response field exercise "CAPEX 06" hosted at F.E. Warren Air Force Base, near Cheyenne in Wyoming.[70] This third exercise under the NRC umbrella was to demonstrate the capabilities of the Air Force Space Command (AFSPC) Response Task Force (RTF) and the interagency cooperation to respond to a nuclear weapons accident. The scenario was based on a road accident of a nuclear weapon convoy. The United States authorities demonstrated their ability to safeguard nuclear weapons components and mitigate consequences of such an accident.[71] Civilians, service members of the U.S. Department of Energy and Department of Defense, as well as local emergency services participated.

The most recent exercise took place on 20–21 March 2007, at the military airfield of Avord in Central France.[72] Senior French Airforce representatives briefed sixty nuclear experts from the NRC member states ahead of the Nuclear Weapons Accident Response Capabilities Demonstration exercise "DENUX". The exercise, based on a scenario of a nuclear weapon convoy being involved in an aircraft accident, demonstrated French capacities to safeguard weapon components and consequence management.[73] Defence ministry organizations, federal and regional civilian agencies as well as local emergency services took part.

On 11–12 December 2007, the NRC organized a second seminar on nuclear weapons incidents and accidents. More than 50 senior officials and experts dealing with nuclear weapons safety and security issues from foreign and defence ministries, national delegations at NATO Headquarters, NATO Military Authorities and NATO International Staff participated.

In June 2011, NRC members participated in a table top exercise that followed on from the four on-site exercises. Again, the scenario dealt with a nuclear weapon incident.[74]

The United States and Russia have also cooperated bilaterally to learn from each other how to prevent nuclear weapons accidents and how to minimize the consequences of such incidents. In 2011, two reciprocal exercises took place in Russia and then the United States.

In July, a U.S. delegation from the Joint Staff, the Office of the Assistant Secretary of Defense, the Office of the Chief of Naval Operations, the Defense Threat Reduction Agency and the U.S. Department of Energy observed a Russian Ministry of Defense-hosted two-day Nuclear Security Exercise at the Abramovo Counter-Terrorism Training Center in Sergiev Posad in Russia. The exercise demonstrated tactics, techniques and procedures (TTPs) for a nuclear convoy security operations: convoy security, explosive ordinance disposal, medical support and initial response of support forces. The Russian Ministry of Defense also showcased TTPs for air support and evasive driving skills.[75]

In return, the U.S.-hosted Nuclear Security Exercise "CRIMSON RIDER" took place on August 9, 2011 at the

65 *NATO-Russia Chronology of Activities* (see note 34).
66 *NRC Nuclear Safety Exercises* (see note 61).
67 *Protecting Nuclear Convoys*, 10.10.2005, www.nato.int/docu/update/2005/09-september/e0914d.htm (accessed 12.03.2014).
68 Ibid.
69 *NATO-Russia News*, 2. 2006, http://www.nato.int/docu/nato-russia_news/ru_news_en_0206.pdf (accessed 12.03.2014), p. 6.
70 *General Klotz: CAPEX adds to Warren Legacy*, 2006, www.missilenews.com/space-command-news/general-klotz-capex-adds-.shtml (accessed 12.03.2014).
71 *Allies and Russia attend U.S. Nuclear Weapons Accident Exercise*, 20.–22.06.2006, www.nato.int/docu/update/2006/06-june/e0620a.htm (accessed 12.03.2014).
72 *NRC experts attend French nuclear weapons accident response exercise*, 20.03.2007, www.nato.int/cps/en/natolive/news_7606.htm?selectedLocale=en (accessed 12.03.2014).
73 *NATO-Russia News 1/07*, 1. 2007 www.nato.int/ docu/nato-russia_news/ru_news_en_0107.pdf (accessed 12.03.2014), p. 7.
74 Ibid.
75 *US Department of States Mobile*, 2013, http://m.state.gov/mc38712.htm (accessed 12.03.2014).

U.S. army base in Camp Guernsey in Wyoming. The security demonstration was designed to exchange best practices for security, safety and control of nuclear weapons during transport.[76] The U.S. and Russian teams countered the proliferation of a terrorist improved explosive device and repelled a terrorist attack on a military vehicle carrying nuclear warheads.[77] Both drills were organized within the framework of the 2010 U.S.-Russian bilateral working group for military cooperation.

4. On-site Activities

NATO (as an organization) and Russia have not conducted any reciprocal on-site activities related to nuclear weapons. Yet, United States and Russia have many years of experience with on-site inspections (OSIs) to monitor compliance of nuclear arms control accords. Three bilateral arms control treaties contain provisions for OSIs: the 1987 Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles (INF), the 1991 Strategic Arms Reduction Treaty (START I) and the 2011 Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START). The quantity, intrusiveness and intensity of these inspections were and are immense.

The INF Treaty provided for the continuous presence of inspectors at missile production facilities in Magna, Utah, and Votkinsk, Russia, to certify non-production of prohibited missiles. In addition to the placement of portal monitoring, verification required the continuous presence of 30 inspectors at each party's sensitive missile production facilities at all times.[78] The verification regime expired in 2001.

The 2011 New START Treaty provides for 18 on-site inspections annually by each party with both sides conducting the maximum number of OSIs allowed.[79] Under the treaty both parties can also confirm actual numbers of warheads on randomly selected ICBMs and SLBMs, exchange information about warhead loadings on the other side's missiles[80], track the location and status of heavy bombers, ICBMs and SLBMs[81] and organize exhibitions of strategic offensive arms subject to the treaty.[82] According to a news release by the Office of the Secretary of State "the implementation process has been positive and pragmatic."[83]

Other examples of transparency measures, although of unilateral character, were on-site visits hosted by France. After cessation of the plutonium production in 1992 and HEU in 1996, and the subsequent moratorium on the production of fissile materials for nuclear weapons, France decided to dismantle relevant facilities. It organized three visits to the Pierrelatte and Marcoule production sites. Representatives of member states of the Conference of Disarmament (September 16, 2008), non-governmental experts (March 16, 2009) and international journalists (July 3, 2009) were allowed participation in on-site inspections.[84] As of today, France is the only NWS that opened the doors of its facilities previously dedicated to nuclear weapons material production.

76 *Russian Delegation visits Warren for Crimson Rider*, 8.16.2011, www.afgsc.af.mil/news/story.asp?id=123267998 (accessed 12.03.2014).
77 *Newsletter U.S.-Russia Initiative to Prevent Nuclear Terrorism*, June – July 2011, http://belfercenter.hks.harvard.edu/files/07.29.11%20IPNT%20Newsletter%20No%209%20ENG.pdf (accessed 12.03.2014).
78 Jamie F. Mannina, *Harnessing ingenuity: Bureau modernizes arms control verification*, in: State Magazine, 1.11.2013, http://digitaledition.state.gov/publication/?i=181871&p=28 (accessed 12.03.2014).
79 Ibid.
80 Emma Lecavalier, *Enhancing U.S. Security Through Treaties*, 16.08.2011, www.nukesofhazardblog.com/story/2011/8/16/17130/7346 (accessed 12.03.2014).
81 *New START Implementation*; June 22, 2012; US Official News.
82 Ibid.
83 Ibid.
84 *Nuclear Disarmament: France's Concrete Commitment – Dismantling the Fissile Material Production Facilities for Nuclear Weapons*; Working paper submitted by France during the NPT Review Conference 2010, www.franceonu.org/IMG/pdf_ENG-PM_1_.pdf (accessed 12.03.2014).

Conclusion

Russia and NATO member states have a long and well established cooperation on nuclear TCBMs. Table 1. provides an overview over the substance of the diverse NATO-Russian collaboration on TCBMs.

Table 1. NATO-Russia activities on nuclear transparency and confidence-building measures.

Date	Action	Framework
Proliferation of nuclear, chemical or biological weapons and their methods of delivery		
24 November 1997	Discussion	PJC
25 March 1998	Discussion	PJC
30 October 2000	Discussion	PJC
9 November 2000	Discussion	PJC
13 December 2000	Discussion	PJC
19 September 2001	Discussion	PJC
27 February 2002	Discussion	PJC
Doctrines		
29 April 1998	Exchange of views and information on nuclear weapons	PJC
8 June 2001	Publication of NATO-Russia Glossary of Contemporary Political and Military Terms	PJC
6–7 July 2005	Garmisch-Partenkirchen seminar on the role of nuclear weapons in NATO's nuclear strategy as well as in national doctrines and strategies of NRC nuclear weapon states	NRC NUCL
November 2009	Oslo seminar on NATO and national NRC nuclear weapons states' nuclear doctrines and strategies	NRC NUCL
27–28 October 2011	Oberammergau seminar on national nuclear doctrines and strategies	NRC DTSR
May 2011	Publication of the NRC Consolidated Glossary of Cooperation	NRC EGT
26–27 June 2013	The Hague seminar on NRC nuclear weapons states' national doctrines	NRC DTSR
Data exchanges		
23 May 2001	Discussion on proposals on data exchange included in the HLG Report on Options for Confidence and Security Building Measures (CSBMs), Verification, Non-Proliferation, Arms Control and Disarmament	NRC
29 November 2001	Discussion of proposals on data exchange included in the HLG Report on Options for Confidence and Security Building Measures (CSBMs), Verification, Non-Proliferation, Arms Control and Disarmament	NRC
18 March 2013	US-Russian briefing on the implementation of the New START Treaty	NRC
Safety and Security		
April 2002	The Hague event on nuclear weapon safety and security	PJC
3–5 August 2004	"AVARYIA" exercise Russia	NRC NUCL (Russia)
14–15 September 2005	"SENATOR" exercise Scotland	NRC NUCL (UK)
20–22 June 2006	"CAPEX" exercise USA	NRC NUCL (US)
20–21 March 2007	"DENUX" exercise France	NRC NUCL (France)
11–12 December 2007	Seminar on nuclear weapons incidents and accidents	NRC NUCL
June 2011	Table top exercise dealing with a nuclear weapon incident scenario	NRC DTSR

Unfortunately, NATO members and Russia have so far not taken advantage of all the instruments in the TCBMs tool box. The PJC was primarily focused on the proliferation of weapons of mass destruction and their means of delivery. There have been various exchanges on doctrines. Even though this is often considered a sensitive issue, both sides have also a track record of intensive cooperation on safety and security issues. Yet, NATO and Russia have to find ways to be more transparent. There have been no formalized data exchanges on nuclear postures. Both sides have also been unable to agree on any on-site activities.

At the same time, it seems that ambitions push the boundary of the possible. A good example may be the 2000 NATO Report on Options for Confidence and Security Building Measures (CSBMs), Verification, Non-Proliferation, Arms Control and Disarmament. Its proposals exceeded mutual observations of exercises, conducting joint accident training and exchanging views on nuclear doctrines.

After the institutionalization of mutual relations between NATO and Russia in May 1997, cooperation on TCBMs started almost immediately and was systematically continued – see Table 2.

Table 2. When did NATO and Russia engage on nuclear TCBMs?

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1997											PRO	
1998			PRO	DOC								
1999												
2000										PRO	PRO	PRO
2001						DOC			PRO			
2002		PRO		SAS								
2003												
2004								SAS				
2005							DOC		SAS			
2006						SAS						
2007			SAS									SAS
2008												
2009											DOC	
2010												
2011					DOC	SAS				DOC		
2012												
2013						DOC						

PRO-Proliferation of nuclear, chemical or biological weapons and their methods of delivery, DOC-Doctrines, SAS-Safety and Security.

Somewhat surprisingly, there appears to be no clear correlation between the state of political relations between NATO and Russia and the depth of dialogue on CBMs between the two. One exception was NATO suspending cooperation within the NRC in the aftermath of the 2008 war in Georgia. Russia's November 2013 announcement to suspend the dialogue on nuclear issues in the NRC is another example of politics impacting substantive dialogue on confidence-building. However, during other difficult times, both sides continued to engage on how to increase transparency and build confidence. At the same time, a question arises on the proportion between existing NRC venues and the quantity and quality of their TCBMs relevant outcomes.

Despite many shortcomings, the NRC has turned out to be the central focus for discussions on TCBMs between NATO and Russia. On several occasions, participants from both NATO and Russia indicated how successful and helpful it is to have a common space to improve mutual trust, increase predictability, suppress suspicion and reassure each other. Without this institution, discussions would have been more difficult.

Appendix 1.

NATO's list of proposed CBMs contained in the 2000 Report on Options for Confidence and Security Building Measures (CSBMs), Verification, Non-Proliferation, Arms Control and Disarmament

Confidence and security building measures with Russia
NATO intends to pursue with Russia four specific CSBM proposals to enhance mutual trust and to promote greater openness and transparency on nuclear weapons and safety issues:

5. Enhance and deepen dialogue on matters related to nuclear forces,
6. Exchange information regarding the readiness status of nuclear forces,
7. Exchange information on safety provisions and safety features of nuclear weapons,
8. Exchange data on U.S. and Russian sub-strategic nuclear forces.

A. Enhance and deepen dialogue on matters related to nuclear forces

It will be important to establish a more frequent in-depth exchange of views, assessments, and information on nuclear forces – thereby enabling a better understanding of intentions and activities in the nuclear sphere than has been the experience to date. With respect to the objective of promoting an enhanced and deepened dialogue, NATO will propose, through seminars, workshops and other expert-level meetings, a more frequent in-depth exchange of views, assessments and information on nuclear forces with Russia.

B. Exchange information regarding the readiness status of nuclear forces

Exchanging information on the readiness status of nuclear forces will demonstrate to Russia the unilateral measures taken by the Alliance to reduce the alert status and readiness of its forces, while increasing the Alliance's understanding of the readiness status of Russia forces.

This proposal would consist of two elements:

A discussion of the unilateral measures already taken by NATO countries and Russia to reduce the alert status and readiness of their nuclear forces, such as those taken by the U.S. as part of the PNIs (removed all tactical/non-strategic nuclear weapons from ships in peacetime, removed strategic bombers from alert, earlier removal from alert of 450 Minuteman II missiles scheduled for elimination under START I), those taken by the UK as a result of its Strategic Defence Review (including significant reductions of warhead numbers and maintenance of only a single Trident submarine on deterrent patrol at reduced readiness), and earlier steps taken by NATO to de-alert dual-capable aircraft. Russia would be expected to present its measures taken as part of the PNIs.

A generic description of the present state of alert for nuclear weapons of NATO countries and Russia.

C. Exchange information on safety provisions and safety features of nuclear weapons

This proposal involves exchanging on a reciprocal basis information on safety provisions for nuclear weapons storage and transport, as well as safety features and procedures to prevent theft and unauthorized use or to minimize the risk of accidents. The proposal could comprise any of the following elements:

Safety & Security Features of Nuclear Weapons

• Hold meetings to discuss on a reciprocal basis lessons learned by the nuclear weapons states on issues related to safety and security practices.

Share Personnel Reliability Programme Oversight Practices

• Exchange information on a reciprocal basis on personnel reliability programmes, two-person concept, or other methods for ensuring against unauthorized access to nuclear weapons.
Mutual Observation of Exercises

• Invite Russia on a reciprocal basis to observe a "nuclear accident response" exercise. The purpose would be to foster a better understanding of the procedures to be followed in responding to an accident, coordination required among civil and military organizations, etc.

Joint NATO-Russia accident exercise

• Invite Russia to participate in a „joint“ nuclear accident response exercise. The purpose would be to enhance mutual co-operation and to improve accident response capability.
The following CSBM could also be pursued in the context of readiness measures:

„Shadow“ exchange officer programme

• Establish an exchange officer programme between SHAPE and an equivalent Russian Federation Military Organization, similar to the exchange which exists between the Russian Military and the U.S. Strategic Command (STRATCOM). The exchange could start at flag officer level and could eventually be extended down to the unit level.

D. Exchange data on U.S. and Russian sub-strategic nuclear forces

This proposal would involve conducting a reciprocal data exchange with Russia within the PJC context. The objective would be to enhance transparency and knowledge of the size of the U.S. and Russian stockpiles.

Appendix 2.

The up-to-date status of the New START inspection regime[85]

Total New START Treaty Inspection Activities			
Treaty Year	United States	Russian Federation	Total
1	18	18	54
2	18	18	54
3	18	18	54
4	1	1	2
Total	55	55	110

85 *New START Treaty Inspection Activities*, 2014, www.state.gov/t/avc/newstart/c52405.htm (accessed 25.03.2014).