

**SCIENCE AND
TECHNOLOGY**

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NATO Parliamentary Assembly

SUMMARY

of the meeting of the Science and Technology Committee
S-090, Folketinget, Copenhagen, Denmark

Sunday 13 November 2005

ATTENDANCE LIST

Chairman	Michael Mates (United Kingdom)
Vice-Chairperson	Diana Strofová (Slovakia)
General Rapporteur	Pierre Claude Nolin (Canada)
Chairman of the Sub-Committee on the Proliferation of Military Technology	Jérôme Riviere (France)
Rapporteur of the Sub-Committee on the Proliferation of Military Technology	Lothar Ibrügger (Germany)
President of the NATO PA	Pierre Lellouche (France)
Secretary General of the NATO PA	Simon Lunn
 Member Delegations	
Bulgaria	Mario Tagarinski
Canada	Jane Cordy Elizabeth Hubley
Czech Republic	Milos Titz
Germany	Monika Heubaum Robert Hochbaum Kurt J. Rossmanith
Iceland	Ossur Skarphedinsson
Italy	Guido Brignone Furio Gubetti Antonio Mereu Paolo Ricciotti
Lithuania	Andrius Baranauskas
Luxembourg	Fred Sunnen
Netherlands	Theo Brinkel
Norway	Jan Arild Ellingsen Heikki Holmas
Poland	Tadeusz Mackala
Portugal	Luiz Fagundes Duarte Joaquim Vasconcelos Da Ponte
Romania	Cristian Valeriu Buzea
Spain	Ramon Aleu Hilario Caballero Gabriel Elorriaga Rafael Estrella
Turkey	Emin Bilgic Ramazan Toprak Ahmet Faruk Ünsal
United Kingdom	Bruce George Jimmy Hood Lord Jopling Baroness Ramsay of Cartvale Lord Sewel of Gilcomstoun Peter Viggers

United States

Dennis Moore
Mike Ross
Tom Udall

Associate Delegations

Croatia

Marin Jurjevic
Velimir Plesa
Rafael Gimalov
Vasily Tarasyuk
Oleg Tolkachev

Russian Federation

Victor Zavarzin
Edi Engelberger
Barbara Haering
Theo Maissen

Switzerland

Mediterranean Associate Delegation

Algeria

Mostefa Chelloufi
Mostefa Khiar

European Parliament

Pawel Piskorski
Teresa Riera Madurell

Parliamentary Observers

Japan

Masataka Suzuki

Speakers

William C. Potter, Director, Centre for
Non-proliferation Studies and Centre for
Russian and Eurasian Studies, Monterey
Institute of International Studies

Martin Parry, Co-Chair Working Group
on Impacts and Adaptation,
Intergovernmental Panel on Climate
Change, UK Meteorological Office

Jürgen Altmann, Physicist and peace
researcher, Department of Physics,
Dortmund University

Committee Secretary

Eliane Janssen (Netherlands)

International Secretariat

Andrius Avizius, Director
Helen Cadwallender, Co-ordinator
Anna Kolesnichenko, Research
Assistant

A. Presentation of the Draft General Report on *The Security of WMD Related Material in Russia* by Pierre Claude Nolin (CA)

1. **Mr Nolin** started by underscoring that a terrorist attack with use of WMD is the major threat that the world is facing today. Russian WMD arsenal is of special concern in this regard, as there are doubts about its security. Yet, cooperation on reduction of threats stemming from Russian WMD is inhibited by Cold-War mentality. While in the early 90s, the US cooperative Threat Reduction Program was quite successful in facilitation of withdrawal of all Soviet nuclear assets from Ukraine, Belarus, Kazakhstan to Russia, by late 1990s, the US-Russian cooperation somewhat stalled. After the 9/11 attacks, however, the cooperation received a new impetus with the G8 Global Partnership programmes.

2. Then Mr Nolin listed problems that initiatives on Russian WMD face:

- 1) Russia's reluctance to provide access for foreign inspections to nuclear and biological facilities that require security upgrades;
- 2) Another problem (partially resolved by the time of the report presentation) was liability protection of US contractors working on WMD related projects in Russia;
- 3) Other problems include insufficient coordination of projects, bureaucratic obstacles and inertia.

3. Biological sector is the most complicated and the least transparent area. While Russia denies having offensive biological weapons, the international community does not have the opportunity to settle its doubts. A related issue is the redirection of bioweapons scientists who lost their jobs after the collapse of the Soviet Union. Several international projects have been launched to tackle the issue, yet more effort is needed.

4. Among other problematic areas, Mr Nolin noted absence of any international mechanism to monitor the security of Russian tactical nuclear weapons, slow pace of chemical weapons destruction, and security as well as environmental threats posed by the nuclear and radioactive material in Russian submarines.

Discussion

5. **Baroness Ramsay of Cartvale** (UK) congratulated the Rapporteur on the good report, yet suggested that paragraph 4 should be more upbeat.

6. **Oleg Tolkachev** (RU) said that the Russian Parliament keeps the situation with WMD under control. Moreover, with economic situation in Russia improving, more budget funding is being allocated to the threat reduction programmes. Russia is also preparing highly qualified professionals to work with WMD. Overall, for the whole history of its existence over 50 years, the WMD sector has not had any major accident. By contrast, there was a temporary loss of control over some WMD facilities in the United States at the time of hurricane Katrina this September. The Russian delegation had an impression that the draft Resolution on the report suggested that Russia can become a source of WMD threat, which the delegation considered not to be corresponding to the reality. The Russian delegation was prepared to discuss the Resolution, yet it believed that it was more reasonable to discuss the issue at the level of experts.

7. Mr Nolin replied he does not think that parliamentarians have to withstand from the discussion of the WMD issues, even though they are not experts in the area. It is crucial to have a parliamentary control of the WMD sector.

8. **Theo Brinkel** (NL) asked why the report concentrated on bilateral co-operation with Russia, and not on the multilateral dimension, i.e., focusing on strengthening international conventions that regulate WMD. Mr Nolin's response was that NATO PA addressed this issue in a previous report.
9. **Victor Zavarzin** (RU) supported the criticism MrTolkachev made to the report. He claimed that the report was all about criticising Russia and that it would be better to take a more constructive approach.
10. Mr Nolin replied by saying that the focus on Russia stems from it being the owner of the largest WMD arsenal. He also said that the report is positive on the issues where there is progress, like for example, submarines issue. He added that NATO cannot rely only on Russian good will, but needs some confirmation that progress is being made.
11. **Teresa Riera Madurell** (European Parliament) said that she did not see the report being negative in tone, quite the reverse, she found it as seeking to establish cooperation. She also noted the success of the program to help scientists from the WMD sector.
12. **Heikki Holmas** (NO) noted that the report does not give much attention to the environmental problems caused by WMD. Mr Nolin replied that two years ago there was a report dealing with this issue. The draft General Report is adopted unanimously.

B. Presentation on *The 2005 NPT Review Conference: Implications for the International Non-proliferation Regime* by William C. Potter,

13. According to **Mr Potter**, the 2005 NPT Review Conference was a failure because its final declaration did not contain much substance. Lack of expertise on the part of delegates, unconstructive position of some parties (notably, Egypt), lack of cooperation on the part of US and Russia are the major factors that caused the failure. The failure of the Conference may undermine the whole NPT review process and make it irrelevant. Yet, some states for different reasons seem to be content with such a situation, in particular, Korea, Iran, Egypt and the United States. Dr Potter also criticized the United States decision to sign a nuclear agreement with India on July 18, 2005, recognising India as a "responsible" nuclear weapons-state (NWS), and resuming civilian nuclear commerce with it. Thereby the United States authorities establish a precedent of "good proliferators", as opposed to "bad proliferators". Dr Potter also stressed that the international community should focus more on non-state actors seeking to acquire and use nuclear weapons.

Discussion

14. **Michael Mates** (UK), Chairman of the Committee, did not agree with condemnation of the United States policy on India and said that nuclear energy may become the major solution of energy needs of many countries in the years to come.
15. **Lothar Ibrügger** (DE) asked why, in Mr Potter's opinion, the members of the Security Council did not arrive at a joint declaration. In his second question he asked Mr Potter to evaluate the situation regarding North Korea and prospects for preventing it from building more nuclear warheads.
16. Regarding the NPT failure Mr Potter responded that the major factor that saved the previous Conference (the one of 2000) was the decision of the five permanent members of the Security Council, including Russia and China, to remove consideration of the ABM Treaty from the discussion. At the time the United States was considering withdrawing from the ABM, which would doom the NPT Review Conference. After the ABM issue was removed from the agenda, the United States was able to agree to many of the Conference suggestions. By contrast, no such political reconciliation happened before the 2005 Conference. In particular, the parties were not able to

reach any agreement on CTBT. On the issue of North Korea, Mr Potter replied that the success of negotiations will depend on the intentions of North Korea regarding its nuclear weapons, which is difficult to judge. If North Korea made a strategic decision that it is in its security interest to have nuclear weapons, then negotiations are not going to change its stance, but will only buy time. On the other hand, if North Korea uses its nuclear program as a bargaining chip, then negotiations may change the situation significantly. According to Mr Potter, it is not the fact of North Korea's having nuclear weapons that is the most troubling, but the possibility that it can provide other states or non-state actors with its nuclear technology, materials or weapons. He also noted that it was unfortunate that the parties at the Conference did not discuss how to deal with North Korea's leaving the Treaty.

17. **Rafael Gimalov** (RU) asked what the prospects are for Pakistan and Israel accession to NPT. Mr Potter replied that there was no "silver bullet" response. Accession of these states is complicated by the definition of a nuclear-weapon state; moreover, it is difficult for those states to part with their nuclear weapons. Their non-participation in the NPT may make other countries (like Brazil) reluctant to join the NPT, and those that already joined may reconsider their participation (for example, Japan). The fact that India was allowed to continue its nuclear program only exacerbated the situation.

18. **Jérôme Rivière** (FR) said that it is not only participants that should be blamed for the failure of the NPT Conference, but the Treaty itself, as it has many imperfections. Moreover, the failure of the NPT Conference should not be considered as something tragic. Attainment of a joint declaration on the lowest common denominator could be worse in that it would have concealed the fact that there are serious problems.

19. Mr Potter replied that the blame can be put on many things. He agreed that the Treaty itself is not perfect; in particular, it is inflexible and does not reflect the new situation. Yet, it is the Conference participants that bear the major blame. They spent too much time on the discussion of procedural issues, so that they did not have time to deal with the substance.

C. Presentation on *Assessing the risk from climate change* by Martin Parry

20. At the beginning of his presentation **Mr Parry** stressed that he is not going to address the reasons for climate change, but instead the risk stemming from climate change. He distinguished four kinds of effects: short-term effects, more extreme weather in the future, future effects on global resource base and changes in regional competitiveness. As an example of short-term effect he mentioned growing exposure of insurance companies. The major effects on weather include increase in intensity of tropical cyclones and hurricanes, more intense rainfall and flooding, and heat waves (of the kind Europe had in 2003). Dry areas will become drier, and rainy areas will get more rain, which means that the regions already disadvantaged (Africa and the Middle East) will suffer the most. As a result, some regions can become more competitive, and others less. In Europe, climate change will benefit Northern countries and will harm the South, as climate there will become dry and hot. Mr Parry suggested three types of policy response to the challenge: adaptation (for example, building of sea defences), mitigation (adopting much more ambitious Kyoto targets) and sustainable development.

Discussion

21. **Lord John Sewel of Gilcomstoun** (UK) asked how climate change will affect sea currents. Mr Parry explained how the Gulfstream may weaken, which would result in European climate becoming colder.

22. Mr Rivière expressed doubt about the reliability of the data used in the report, giving an example of a meteo-station in Nice. He also was sceptical about the validity of judging about the

warming effects based on the exposure of insurance companies, as there are different reasons for their exposure to grow, beyond climate change. He also questioned the validity of long-term weather forecasts, as currently even short-term forecasts are imprecise.

23. Mr Parry responded that researchers do account for differences in meteo-stations locations, so that the data used is quite reliable. Regarding reliability of the long-term forecasts about climate change, he said that there is quite compelling evidence that they are reliable.

24. Mr Brinkel expressed concern about the rise of the sea level. Given that 2/3 of the Netherlands are below the sea level, this issue is of high importance for the Netherlands' security. He asked about projections about the rise of the sea level. Mr Parry said that due to warming of the sea water, the sea level may rise about 10-30 cm over 100 years. Moreover, storms may become more frequent.

25. Ms. Riera Madurell asked to what extent climate change comes from a natural trend. Mr Parry replied that there is, indeed, a historic trend in climate change, caused mainly by variations in solar radiation. However, recently, anthropogenic factors have become more important.

D. Presentation of the Draft Special Report on *Climate Changes in the Arctic: Challenges for the North Atlantic Community* by Pierre Claude Nolin, Special Rapporteur

26. Mr Nolin outlined some major additions made since the previous presentation of the report. In particular, he said that it is clear now that Kyoto targets will not be achieved by 2012, and instead, countries should target 25% reduction in their carbon emissions. He also said he incorporated recommendations he received before, but has not elaborated on them. He noted that the report does not give any revolutionary recommendations, the major of them being adaptation. He also suggested that the issue of climate change should be elevated to the status of state security matter.

Discussion

27. Mr Brinkel suggested putting explicitly in the report that climate change is a security matter. He also suggested removing from conclusions the speculation about Russia's membership in the EU. Mr Nolin agreed with the comments.

28. **Tom Udall** (US) noted that the report addressed the problem very well and underscored the two major causes of the climate change – fossil fuel usage and deforestation. Mr Nolin mentioned a recent US Department of Defence report on climate change that was recently declassified.

29. **Emin Bilgic** (TR) expressed his concern that there is much talk about climate change, but not much action. He suggested that the Committee should develop follow up activities and that it should share its findings with other committees so that they could see what the implications for their spheres are.

30. **Guido Brignone** (IT) said that climate change may lead to increased migration of people, which will require changes to the Schengen Treaty.

E. Presentation of the draft report on *The Security Implications of Nanotechnology* by Lothar Ibrügger

31. In his presentation, Mr Ibrügger described current stage of nanotechnology development, as well as its future potential, noting that this technology is likely to become the next fundamental technological revolution that can change all aspects of life. In the course of the next several decades, nanotechnology may contribute to solving the world's most pressing energy problems (for

instance, by allowing effective use of sun energy), it may also help eliminate poverty (by facilitating cheap production of goods). It can also help cope with environmental pollution, etc.

32. Yet, availability of this technology bears certain risks. For example, nanoparticles can easily penetrate human body and, thus, are very toxic. Nanotechnology can also have serious implications for security. For example, nanotechnology based weapons can be produced circumventing the existing weapons treaties but not actually violating them. At the same time, nanotechnology can help strengthen security policies by providing it with superior tools.

33. Mr Ibrügger urged the participants to raise the issue in their respective parliaments to ensure peaceful development of nanotechnology. He noted some initiatives in the United States, Great Britain and Germany that are already being undertaken. He also suggested that the international community should address the issue, and that NATO PA should have it on its political agenda.

Documentary

34. The Committee members watched a half-an-hour documentary film on nanotechnology, prepared by the German scientists.

F. Presentation by Jürgen Altmann on *Nanotechnology – Potential Military Applications and Preventive Arms Control*

35. Dr Altmann started by shortly explaining what nanotechnology is about and that it can go as far as production of self-replicating nanorobots. In the nearest future, the technology will find its most important use in computers (as nanoparticles are very small, their use in computer components will allow constructing small but very powerful machines), microscopes and medicine.

36. However, Mr Altmann stressed, there could be risks associated with the use of this technology. In the military sphere, the potential risks stem mainly for the small size of the devices that can be produced based on this technology. Another potential threat stems from potential malevolent uses of nanoparticles towards humans. Finally, nanotechnology may endanger arms control agreements as it may give possibilities for circumventing them.

37. Mr Altmann noted that it is the military sector that orders the major part of the current research in the United States on nanotechnology. Other countries are far behind in nanotechnology development, so that the United States appears in a unilateral arms race.

38. In conclusion, he said that development of nanotechnology will lead to the necessity of more control and intrusion in the process of nanoproductions production and use so as to ensure security.

Discussion

39. Mr Mates, asked about the timeframe when nanoproductions will become available. Mr Altmann said that tangible results of the nanotechnology development are expected in a course of a decade.

40. **Vasily Tarasyuk** (RU) expressed a concern that nanotechnology can bring more harm than good. **Ramon Aleu** (ES) asked how close the prospect of construction of self-replicating robots is.

41. Mr Altmann replied that such a prospect is quite remote. Yet, what can become possible soon is modification of the existing dangerous agents, like viruses, so that they become able to self-replicate faster.

G. Discussion and adoption of the draft Resolution on *The Security of WMD Related Material in Russia*

42. Mr Nolin presented the draft Resolution. The Russian delegation suggested a number of amendments, and some of them were accepted by the Rapporteur. The draft Resolution, thus amended, was adopted unanimously

H. Presentation on *Improvements to the International Legal Rules on Military Activity in Space* by Rafael Gimalov

43. Mr Gimalov's main claim was that the existing space agreements are outdated and need to be changed. In particular, there is a need to develop international mechanisms to deal with space garbage. Nuclear tests and peaceful activities in space have led to accumulation of thousands of pieces of space garbage. Further accumulation of garbage may lead to accident or catastrophes. For example, if a piece of garbage damages a geostationary satellite, major disruption in communication system may occur.

44. Another major problem is emergence of new players in the space. Mr Gimalov expressed great concern about participation of private military companies in space exploitation (he mentioned the case when such a company was contracted for military tasks in Serbian Craina). According to Mr Gimalov, participation of private companies in military activities in space can lead to technological drain and weapons proliferation and, therefore, should be prohibited.

45. Mr Gimalov concluded with a list of propositions that include measures to limit the blasting of spacecrafts in orbit, to improve space monitoring, to prevent space debris formation, and to prohibit private companies from full-scale tests of space weapons.

46. The Chairman of the Committee thanked Mr Gimalov and assured him that this issue will remain a high priority for the Science and Technology Committee.

47. The Chairman presented the Committee activities in 2006. He announced that the General Rapporteur would continue working on the issue of the climate change, focusing more on new developments and approaches in this area beyond Kyoto. The Sub-Committee will draft a report on the highly important issue of Iran's nuclear programme and its implications to the nuclear non-proliferation regimes. The General Rapporteur also considers preparing a special report on technological cohesion within the Alliance.

48. Mr Brinkel suggested that Committee should address the issue of the airplane noise; many people in certain areas get hindered by it. The problem comes from use of old aircrafts and could possibly be resolved by upgrading of their engines. The Chairman promised to consider the proposal and to give a response to Mr Brinkel at the spring session.

49. As far as the Committee and Sub-Committee visits are concerned, the Chairman announced the plans to visit 1) the United States, 2) Russia and 3) Vienna and/or Geneva. Speaking about the mission to the United States, Mr Ibrügger suggested to visit UN institutions in New York, instead of going to Washington D.C.

50. The Chairman then proceeded with the elections of new Committee officers. **Mr Ibrügger** (Germany) was elected Vice Chairman of the Committee. **Diana Strofová** (Slovakia) was elected Sub-Committee Rapporteur. **Mario Tagarinski** (Bulgaria) was elected Vice Chairman of the Sub-Committee. All the re-eligible Committee and Sub-Committee Officers were re-elected for one year.
