

SECOND IWG MEETING

EC, Centre Borchette, Brussels, February 25-26, 2002

REPORT

Preamble

The second International Working Group (IWG) meeting was convened in Brussels, under the Chair of the European Commission, in association with the IWG Secretariat, on February 25-26, 2002.

The agenda of this meeting covered a general assessment of the international cooperative programmes (US-Russia programmes, International Science and Technology Centre (ISTC) multilateral programmes and bilateral initiatives supporting the Russian Nuclear Cities (RNCs); the scope of the European Nuclear Cities Initiative (ENCI); conversion experience of governmental and non-governmental entities; presentation of concrete technological projects by the RNCs; the mechanism of debt swap for non-proliferation and; strategies, actions and priorities for the future.

The meeting had a broad attendance by experts, officials and representatives of governmental entities, including the participants of the first IWG meeting, held in Como, Italy, last November 9-10, 2001. The first meeting had defined the general understanding framework for the IWG, called the Administrative Arrangement (see **Annex 1**).

Overall assessment

To date, it has been assessed that the general expenditure towards conversion activities and job creation in the RNCs by the US-Russia programmes has been of roughly \$14 million allocated for 20 RNCs projects (in Sarov, Snezhinsk, Zheleznogorsk and Zelenogorsk) by the Initiatives for Proliferation Prevention (IPP), and about \$18 million for 22 RNCs projects (in Sarov, Snezhinsk and Zheleznogorsk) by the Nuclear Cities Initiative (NCI). However, not all the appropriated funds by the US-Russia programmes have been spent in the closed cities, since approximately 50% - 70% of the U.S. programme funds were allocated for programme management by the US National Laboratories. The fund allocated by the ISTC multilateral programme amounted to about \$49 million for 237 science and technology projects headed by the main laboratories of three closed cities (Sarov, Snezhinsk and Seversk).

The international programmes managed by the western entities are transparent in figures and targets. Looking at the allocation of funds for IPP, NCI and ISTC projects to the closed cities, there is a discrepancy among the cities, since Sarov gets (about \$48 million) almost twice Snezhinsk's funds, and Snezhinsk gets almost six times Zheleznogorsk's funds, and the other seven cities receive almost no funding. The number of jobs created in the closed cities is low (less than 500 full-time jobs to Russian scientists).

MINATOM has similar conversion and downsizing programmes for the RNCs, that begun in July 1998 and ended in December 2001. These Russian programmes have received about \$500 million, but only a part of this money were used for conversion. According to "Atompressa" report (No. 47, December 2001), the total value of the programme 1998-2001 was approximately \$220 million, including \$130 million for conversion, associated to the creation of more than 6000 new jobs through 60 conversion projects. The targets and types of

these conversion programmes by MINATOM are neither known to the West, nor is known to what extent these conversion programmes involve leading weapon scientists in the RNCs.

The international regime of cooperative initiatives towards Russia has been enriched by the Nuclear Threat Initiative (NTI), who has allocated \$250 million for five years to focus on the former Soviet Union, Asia, U.S. non-proliferation policy, and nuclear, chemical and biological weapons. The NTI has considered to provide \$1 million to support a revolving loan fund for the development of conversion companies in Sarov.

The meeting has also discussed the conversion projects in the RNCs by technical areas and it has been remarked that concerning VNIIEF (Sarov) and VNIITF (Snezhinsk), the environment projects were 18% of the total, fission reactor projects amounted to 14%, physics projects 34% and others 34%. For comparison, the same figures for ISTC projects overall showed environment projects 17%, fission reactor projects 12%, physics projects 13% and others 58%.

The meeting underlined that international community programmes are not much effective in creating new jobs in the RNCs and almost all US-Russia projects despite their market-orientation, have not yet reached their goal. Many reasons have been underlined, such as: absence of coordination among the different cooperative programmes, which may have led to supporting similar, non-diversified projects, resulting in supporting most projects in few cities and mainly Sarov; a focusing on the RNCs S&T project offer rather than on the actual needs and interest of the western R&D, market and industrial sector (the nuclear complexes are still endeavouring to submit projects responding to their own perception of S&T priorities); lack of project competition among the closed cities; absence of steering committee structures for the conversion projects, which could include western users – technicians/market/economy experts – and local administration officials (in economy transition countries like Russia an enterprise and innovative culture is yet to be integrated); creation of new jobs for excess RNCs workers only within the local area around the closed cities (further limited by MINATOM stressing the need to create jobs only in the closed cities); a low political profile of the MINATOM conversion programmes in the agenda of the Russian foreign policy, possibly due to the difficulty of coordinating with other Russian Ministries and the Russian Academy of Sciences; absence of a long term political and financial sustainability view for the conversion and downsizing programme in the RNCs, but also the entanglement of this view with a broad disarmament and non-proliferation programme (nuclear, biological and chemical) in Russia.

In order to contribute to improving and optimising western S&T cooperation towards Russia and in particular towards conversion of the RNCs, the Italian Ministry of Foreign Affairs and the Landau Network-Centro Volta (LNCV) have promoted the ENCI concept since 1999. Following the European Commission presentation at CONOP in January 2001, the ENCI is progressively being integrated as a European Community initiative, with the European Commission contributing to an IWG modelled after other ISTC Contact Expert Groups.

ENCI and IWG

ENCI has been considered by the participants a positive opportunity to employ new ideas and new concepts – in association with MINATOM and complementarily to the international programmes in place – for conversion and downsizing programmes in the RNCs. In particular:

- 1) ENCI can adopt a market/R&D pull-model by looking at *applied research and technology applications & development* needed by large scientific institutions like CERN, public sectors like the governmental agencies of the EU countries, and Euro-

pean enterprises or private actors (donors). The EU system intrinsic to the ENCI allows, in principle, both multilateral (through ISTC) and bilateral (through individual European countries) funding mechanisms, so that the pull-model can be triggered by the *critical technologies* (specially in energy and environment) identified by the technological forecasting of each single European country, and also by the *technological sectors identified by the new EC's Sixth Framework Programme*. The demand-side model for conversion allows moreover to meet the technological niches of the Europeans, but also cope with the local demands of the city governments of the RNCs.

- 2) ENCI has established an informal international Forum for analysis and discussion, in the form of an International Working Group, which is open to experts outside the usual group of scientists and technicians who usually assist conversion programmes towards the Russian Nuclear Cities. Many participants in the second IWG meeting have stressed the need to: i) create an ***IWG Scientific and Technological Committee*** for the selection of the ENCI projects collected by the IWG Secretariat; ii) include in the IWG process economic, social and market experts who can assist in determining scientific and technological trends of interest to the government, scientific and industrial sectors of European countries and Russia; iii) extend, when possible, participation in the IWG meetings to RNCs city governments as well as to the decision-makers of the city enterprises and conversion consortia, like VNIIEF-CONVERSIA (Sarov) and SPECTR-CONVERSIA (Snezhinsk).
- 3) The above IWG Scientific and Technological Committee – chaired by Mr. Jean-Pierre Contzen – should provide an evaluation of the projects within the ENCI framework to be supported by ISTC while acting as a “technological broker” between the RNCs and the European entities concerned with the projects (enterprises, private sectors, CERN etc.).
- 4) ENCI should be focused on the creation of full-time jobs for high-level weapon scientists. The experience of CERN has shown that, if these people are employed in a proper research framework, they are able to integrate themselves in the international community and manufacture sophisticated high-tech commodities of interest for the European market, such as the crystals developed through the Russia-CERN cooperation. In most cases, it is easier to efficiently mobilise high-skilled scientists in high scientific and technological applications, when in addition these experts pose major risks of brain proliferation and their number is much, much lower than the total number (35.000) of excess workers in RNCs.
- 5) The European demand on environment targeted projects that can be developed with the S&T RNCs capabilities, is broader than in the US, owing to the commitment of all European countries to the Kyoto Protocol. As a consequence, many EU governmental Agencies (such as the French CEA, Italian ENEA, etc.) could become the stakeholders of conversion projects such as carbon emission monitoring and software, decontamination and remediation techniques for radioactive waste and decommissioning of nuclear equipment, environmental friendly advanced energy technologies, etc. The IWG could identify in the RNCs laboratories and demonstration facilities that could act as “high-tech incubators” (or “consulting groups”) for the demand of the above agencies.
- 6) Several presentations highlighted the ENCI double track funding scheme: a bilateral and a multilateral scheme through ISTC. During the second IWG meeting ENEA announced the drafting of a law for the allocation of \$2.5 million for conversion projects in energy and environmental areas to be set in Sarov and Snezhinsk, and the UK Department of Trade and Industry (DTI) announced the possibility of allocating part of £87 million – provided for nuclear material protection and safety, Plutonium

disposition and for decommissioning of FSU nuclear submarines – to some non-nuclear projects in the RNCs. Considering that the EU will achieve a critical mass only when the European Commission, the EU Member States join their effort, the example of Italy and UK could be an encouragement to other European countries. In that respect it would be an advantage when the political profile of ENCI programme is raised to the level of the competent EU Council Committees (like CONOP) and International Conferences (like NDCI) and to the level of the institutional EC-Russian dialogue.

- 7) The ISTC, with its Partners Programme, is a natural channel to implement and to manage ENCI projects. In order to avoid the difficulties met by the International Programmes, it is mandatory to adjust the ISTC project application form, to be adopted for the submission of ENCI-ISTC projects, which should insist further on criteria of transparency and cooperation, planning and management structure, while maintaining the high level of scientific and financial auditing and access for westerners. In particular each project will *provide for a Steering Committee*, like in the ISTC Partners Programme, including representatives of western countries (the demand-side) and the beneficiaries. In addition other local or regional representatives could be invited to attend the steering Committee if the project application is of some importance to the region in terms of science application or industrial application.

In this case, some participants have underlined the necessity to investigate any possibility to reallocate some EC contributions to ISTC for supporting participation of westerners to the above Steering Committee, or to establish some mechanism so that western users may get part of the revenues (if any) from the project. ENCI projects need to be structured and managed in such a way that targets of each project are achieved within a definite period of time and that payment be tied to these achievements. This can be attained through regular progress reports. Furthermore, it would be important to require that the projects, whose outputs are oriented to the European market and industrial sectors, fulfil the rules of EU industrial certifications in place.

- 8) All participants have welcomed the idea to set up an ENCIWeb to transfer knowledge skills, technological projects and services in a more effective manner between RNCs suppliers and European users by using advanced information technologies. The ENCIWeb is not limited to a simple online catalogue accessible over the web, but it consists of a complete Knowledge Management solution that supports and adds value to the information exchange mechanisms that need to be implemented among users and suppliers of innovative technologies.

Projects

The three Russian Nuclear Cities of Sarov, Snezhinsk and Zheleznogorsk have presented some conversion projects:

Sarov. Three projects: a) ENCIWeb (completion time one year, Russian total cost \$60.000); b) RFNC.VNIIEF Ecological Centre (three years, \$678.000); c) Saving energy resources and water supply at Gorvodokanal facility (one year, \$250.000).

Snezhinsk. Four projects: a) Manufacture of solid oxide fuel cells (two years, \$295.000); b) 1KW power plant demonstration facility (no figures); c) Storage of waste from industrial reprocessing of metallic Uranium (two years, \$290.000); d) Non-destructive control of solid oxide fuel cells (1,5 years, \$193.000).

Zheleznogorsk. One project: creation of heat and power replacing sources (five years, \$300.000).

Unfortunately, some of the proposals offered by the RNCs have been the same for the last 4 to 5 years, and some of them have been offered for the past 2 –3 years.

It was suggested in the general discussion on this session of the meeting and in the conclusions that ENCI must create a substantial framework guideline for projects submission and a definite financial resource planning to be allocated within this framework, in order to help RNCs in the identification and management of projects that may meet the demand-side ENCI criteria. These criteria had been already established in the first IWG meeting and in the ENEA-LNCV-RANSAC meeting on “Energy and Environmental Opportunities in the Russian State Research Centres and Nuclear Cities”, held at Como on April 9-10, 2001, supported by the Italian Ministry of Foreign Affairs.

Sarov’s projects sufficiently met ENCI criteria, due in large part to a long interaction between IWG and Sarov, since Sarov has been appointed by MINATOM as the “pilot city for conversion”. This fact suggests again that it is mandatory to establish some western presidiums in the Russian cities at the ENCI’s start-up, in order to pick up some pilot conversion projects that match high profile European needs and in order to help Russian scientists to correctly work out the project plans. These western presidiums can be organised, from time to time for each project, as the *Steering Committee* mentioned above.

Debt swap for non-proliferation

During the meeting, a report on behalf of the NTI by Battelle, Pacific Northwest Division staff employed at the Pacific Northwest National Laboratory (PNNL) was provided on the concept of debt swap for non-proliferation, was presented. The concept of debt swap for non-proliferation was originally suggested in the 2001 Carnegie International Conference by LNCV and PNNL, and since then MINATOM has investigated consensus to this idea in the Russian establishment (Kremlin, Ministry of Finance, Ministry of Industry, etc.).

In the first IWG meeting, MINATOM was asked to debate the status of debt swap concept at the second IWG meeting. The Russian participants briefly illustrated in Brussels the situation to date. There are two approaches to the Paris Club by the Russian Ministry of Finance: one – supported by the Prime Minister Kasiyanov and by Deputy Minister of Finance Kolotuhin, who is responsible for external Russian debts – sets forth the concept of debt swap for investments wherein debt is exchanged for ownership shares of some Russian enterprises. The second – supported by the Minister of Finance Kudrin, the chief of Mr. Kolotuhin and a subordinate of Mr. Kasiyanov – supports the concept of a debt swap for non-proliferation. To this day, there is no compromise between these two positions. MINATOM is planning to draft a list of concrete pilot projects with a volume of about \$10-50 million to be supported by a debt swap for non-proliferation.

Western participants in the meeting have stressed the essential need to enhance coordination among the several Paris Club creditor countries in order to also create a “group of pressure” on Russia in order to support the concept of debt swap for non-proliferation rather than debt swap for investments, which in any case is of no interest to some European Paris Club creditor countries.

In this context, in December 2001, the US Senate unanimously approved a measure for debt for non-proliferation, named “The Debt Reduction for Non-proliferation Act of 2001 (DRNA)” which would authorise an appropriation to the President for debt conversion of \$100 million for FY 2002 and of \$200 million for FY 2003. However, it is not clear if there is any chance of coordination between US and Europe in this area and if the Congress is unified

to actually push debt swap for non-proliferation, since the Congress has just appropriated an additional \$150 million to support accelerated nuclear non-proliferation cooperation with Russia in December 2001 in the wake of the September 2001 terrorist attacks on the U.S..

On the other hand, the Russian side stated, as a Russian proposal to the meeting record, that "Russia's MINATOM is interested in resolving the issue of writing off a part of Russia's debt to the Paris Club member-states to use this fund for the MINATOM of Russia conversion programmes in nuclear cities". However, some participants have pointed out that there is some risk that the Russian economy will slump, if Russia does not increase its share on the oil market, disputing Russia's capability to honour the external debt for 2003, hence Russia's official position on debt servicing could change again.

Europe's position on this issue has been briefly discussed during the meeting and, besides some concern for a debt swap for non-proliferation by Italy (\$5.4 billion Paris Club credit) and by France (\$3.0 billion), the position of Germany (\$19.8 billion) is not yet in favour of a debt restructuring concerning \$44.8 billion of Russia's Paris Club debt. Some European participants stressed that these differences among European countries' opinions are of a cosmetic nature rather than substantial, and that more coordination among different EU creditor countries' concepts about debt swap for non-proliferation, is necessary. The IWG meeting has agreed to establish a sub-group for debt swap that should meet at the beginning of next May.

Last but not least, the meeting underlined that the debt swap funded macro-projects which could attract the interest of European countries are: the decommissioning of FSU nuclear powered submarines; the accelerated blending-down of HEU, and hence making proliferation-proof the almost 600 tons of Russian HEU, which are still greatly in excess of their requirements; pilot macro-projects developed in the large European scientific institutions such as CERN, which require a deep involvement of RNCs' high-level expertise.

ADMINISTRATIVE ARRANGEMENT

BETWEEN

**THE EUROPEAN COMMISSION
THE MINISTRY OF ATOMIC ENERGY OF THE RUSSIAN FEDERATION
THE ITALIAN MINISTRY OF FOREIGN AFFAIRS
THE INTERNATIONAL SCIENCE AND TECHNOLOGY CENTER
THE ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE
THE UK DEPARTMENT OF TRADE AND INDUSTRY
NUCLEAR CITIES INITIATIVE OF NATIONAL NUCLEAR SECURITY
ADMINISTRATION
THE RUSSIAN STATE RESEARCH CENTRE RFNC-VNIIEF, SAROV
THE RUSSIAN STATE RESEARCH CENTRE RFNC-VNIITF, SNEZHINSK
THE LANDAU NETWORK - CENTRO VOLTA
THE RUSSIAN-AMERICAN NUCLEAR SECURITY ADVISORY COUNCIL
BATTELLE PACIFIC NORTHWEST DIVISION
LAHTI REGION EDUCATIONAL CONSORTIUM**

**FOR CO-ORDINATING COOPERATION TO ASSIST THE RUSSIAN FEDERATION IN CONVERSION
AND DOWNSIZING OF THE RUSSIAN NUCLEAR WEAPONS COMPLEX
(EUROPEAN NUCLEAR CITIES INITIATIVE - ENCI)**

Various efforts are being undertaken by different organisations and directed towards the conversion and the restructuring of the Russian nuclear weapons R&D complex, and in particular but not only its core located in the Russian Nuclear Cities (RNCs) of Sarov and Snezhinsk.

It is desirable to co-ordinate these efforts so as to create synergies between different programmes; to strengthen non-proliferation; to enhance peaceful research capabilities; and facilitate the creation of partnerships with various agencies and institutions that could result in the further development and commercialisation of new technologies.

An Administrative Arrangement between the European Commission, the Ministry for Atomic Energy of the Russian Federation (MINATOM), the Italian Ministry of Foreign Affairs, the International Science and Technology Center (ISTC), the Ente per le Nuove Tecnologie, l'Energia e l'Ambiente (ENEA), the UK Department of Trade and Industry (DTI), the Nuclear Cities Initiative of National Nuclear Security Administration, the Russian Federal Nuclear Centres RFNC-VNIIEF, Sarov and RFNC-VNIITF, Snezhinsk, the Landau Network-Centro Volta, the Russian-American Nuclear Security Advisory Council (RANSAC) and the Battelle Pacific Northwest Division, is hereby established (hereinafter referred to as the "sides"). The purpose of this Administrative Arrangement is to develop recommendations to facilitate European efforts to assist the Russian Federation in conversion and downsizing of the Russian Nuclear Weapons Complex and also to increase the coherence and the strategic alignment with other programmes focused on the needs of the RNCs. This Administrative Arrangement is not intended to create obligations binding the sides under international or domestic law.

Activities

Co-operative activities can include:

- To analyse the past and ongoing projects aimed at addressing the problems of the Russian Nuclear Cities by utilising their scientific and technical capabilities and to make suggestions for actions that can achieve the objective of establishing synergies among different programmes and projects;
- To make suggestions on how to better integrate weapons scientists/technicians into work that has direct relevance to commercial and government needs;
- To make suggestions on how to support implementation of a wider and more integrated nuclear cities programme;
- To coordinate this initiative with other bilateral and multilateral activities in favour of the RNCs, as those by the ISTC, in particular with programmes implemented by the Russian Federation and the US, including the DOE Initiatives for Proliferation Prevention (IPP), the DOE-Nuclear Cities Initiative (NCI) and the NGO Russian American Nuclear Security Advisory Council (RANSAC);
- To promote relationships with the financing sector;
- To promote relationships among organisations involved in civil-conversion with the RNCs;
- To promote concrete projects and activities that have applicability to meeting international challenges or market needs;
- To make suggestions for a coherent strategy to prevent proliferation, to promote the creation of new civil jobs for the excess workers, to foster the spin-off of basic research, to realise in the marketplace the vast potential of expertise and scientific/technical knowledge that exists in the nuclear cities;
- To disseminate information and ongoing activities on-line by a dedicated web site.

International Working Group

An "International Working Group for the European Nuclear Cities Initiative (ENCI)", hereinafter referred to "IWG", is hereby established in order to achieve the above referenced goals and activities.

The IWG shall consist of representatives designated by the signatory parties. The IWG may invite to its meetings representatives from: governmental ministries and agencies of Russia; Russian Nuclear Cities and other Russian entities; US and other governmental agencies and national laboratories; international and multilateral entities; and non-governmental organisations that have: developed activities in the field of non-proliferation with the RNCs; demonstrated an interest in collaborative activities with the RNCs; and these representatives also may include R&D institutes, production facilities, incubators/innovation centres in RNCs, and other bodies serving the overall objective of non-proliferation through science cooperation.

The IWG shall issue an annual progress report on the co-operation and activities.

The IWG shall have two co-chairpersons each serving for a 2 years term. The chairs will consist of a European Commission co-chairperson and a Russian Federation co-chairperson. The co-chairpersons shall call the IWG meetings, establish the priority areas and circulate the IWG report and other documents to the sides. The co-chairpersons, through the Secretariat, shall periodically inform the sides on the strategies and the programmes in favour of the RNCs.

The IWG normally meets twice a year in alternating locations among the sides' countries. The host organisation of the meeting will provide the meeting structures and the necessary facilities, as well as interpretation in Russian and English.

Secretariat

The IWG will be supported by a Secretariat. The Secretariat will be headed by an Executive Secretary, assisted by a Scientific Secretary and an appropriate staff. The Landau Network-Centro Volta located in Villa Olmo, Como, Italy will provide the infrastructure for the Secretariat for the first 2 year term. The Executive Secretary and the Scientific Secretary are nominated by the co-chairs of the IWG.

The Secretariat, in consultation with the co-chairs, has the responsibility for:

- The organisation of the IWG meetings (agenda, documentation)
- The development of the IWG activities and preparation of recommendations of the IWG
- The implementation of the recommendations of the IWG
- And other activities as agreed upon;

Funding

Co-operative activities under this Administrative Arrangement shall be subject to the availability of appropriated funds and to the applicable laws and regulations, policies and programmes of each side.

Each side shall bear the costs of participation in meetings of the IWG. However, costs, other than those for travel and accommodation, which are directly associated with meetings of the IWG, shall be borne by the side hosting the meeting. Upon availability of funds the European Commission will contribute to the functions and the costs of the Secretariat.

Notwithstanding the above, the sides may consider to financially support the involvement of participants from the Russian Federation.

New Members

Government and non-governmental entities involved in comparable efforts are welcome to join this initiative. They are admitted by consensus of the IWG upon written request stating their agreement with the terms and conditions of this Administrative Arrangement.

Duration

This Administrative Arrangement shall enter into force upon signature by the sides. It shall remain in force for a period of 5 years. Each side may withdraw at any time, subject to 90 days' written notice to the other sides. This Administrative Arrangement may be amended or extended by written agreement of the sides.