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**COMMISSION STAFF WORKING DOCUMENT**

**Accompanying document to the**

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE  
COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE  
COMMITTEE OF THE REGIONS**

**on the implementation of the Instrument for Nuclear Safety Cooperation**

**First Report – Action Programmes for 2007, 2008 and 2009**

## Introduction

All projects funded by the Instrument for Nuclear Safety Cooperation<sup>1</sup> (INSC) were presented to the INSC Committee for opinion as part of the respective Annual Action Programmes (AAP). The projects were discussed and reviewed with the Committee, then revised in accordance with the Committee's comments and re-submitted by the Commission. Each AAP received a favourable opinion from the INSC Committee on the second submission.

The AAP 2007, AAP 2008 and AAP 2009 were presented in two parts. Part I concerns projects of operational nature and/or projects which may be implemented without a Financing Agreement with the beneficiary country, whereas Part II concerned projects of a more technical nature for which the proper implementation did require the beneficiary country to enter into a Financing Agreement with the European Commission.

The projects under AAP 2007, AAP 2008 and AAP 2009 and their status of implementation by mid 2010 are presented in table 1 (AAP 2007), table 2 (AAP 2008) and table 3 (AAP 2009), below. Table 4 summarises the Countries' allocations and contracting status by mid 2010 and table 5 provides a summary of the implementation of the INSC Programme by sector. These tables complement the information provided in the Report from the Commission to the European Parliament and the Council, European Economic and Social Committee and the Committee of the Regions of the European Union on the implementation of the Instrument for Nuclear Safety Cooperation (First Report – Annual Action Programmes for 2007, 2008 and 2009).

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<sup>1</sup> Council Regulation (EURATOM) No 300/2007 of 19 February 2007, OJ L 81 of 22 March 2007, p.1.

## **1. IMPLEMENTATION BY PARTNER COUNTRY**

### **1.1. Former Soviet Union**

#### *1.1.1. Armenia*

##### **The Armenian NPP (Medzamor)**

The Armenian NPP uses a WWER-440/230 reactor of the so called ‘first generation’ which cannot be upgraded under reasonable economic conditions to current safety standards due to its specific design. The EU has taken the firm position that it should be shut down as soon as possible. However, due to the lack of replacement electricity generation capacity and the country’s needs, the Armenian Government decided that the power plant would need to continue operating for several more years. A Joint Donors Working Group was set up in 2005, at the initiative of the IAEA, to agree on priorities and provide funding for urgent nuclear safety improvements (IAEA Category II to IV safety issues) while the plant remains in operation.

The European Commission, the Government of Armenia, UK, USA, and the Czech Republic actively took part in this Group. Russia joined the group in 2008 with a donation of about 10 Million USD.

Under AAP 2007, the EU funded safety projects for primary circuit and steam generator in-service inspection, sump clogging and instruments and controls upgrading.

In the frame of AAP 2008, the EU provided support to ANPP to implement four Nuclear Safety projects aiming at improving the radiation protection of the NPP personnel, enhancing the main control room habitability and security, installing a remote shutdown panel equipped with a post-accident monitoring system and upgrading the emergency core cooling system equipment in order to ensure its operation in long term cooling mode. The overall budget of the AAP2008 for ANPP amounts to €6 million.

Under AAP 2009, the EU allocated €7.5 million for Medzamor projects for enhancing the main control room, operators training, maintenance practices, reactor confinement spray system, as well as the development of the decommissioning concept and implementation of a pilot decommissioning project.

##### **Support to the Armenian Nuclear Regulatory Authority (ANRA)**

Under AAP2007 the EU allocated €0.8 million for a Regulatory Assistance project to continue support to the promotion of an effective nuclear safety culture in Armenia. The project provided for support to ANRA in its institutional building efforts, the development and implementation of spent fuel, decommissioning and nuclear waste management strategies.

Under AAP 2009, the EU allocated a further €2.0 million in Technical Support projects, aimed at transferring EU regulatory methodologies and practices in the

fields of emergency preparedness, preparation and enforcement of regulations, decommissioning, licensing of On-Site Assistance projects and inspections.

The situation of the Regulator (ANRA) improved with increased numbers of staff, higher remuneration for staff and direct reporting to the government. Support continued to be provided to the management of ANRA by on-site experts for the licensing of industrial nuclear-related activities.

#### Waste Management and decommissioning

A project for the development of a national waste management strategy in Armenia was included in AAP 2009 for €1.5 million. This project is part of Armenia's approach towards the shutdown and ultimate decommissioning of the Armenian NPP. Industrial safety improvement projects and assistance in the revision and completion of the regulatory licensing plan for decommissioning of the ANPP were taken into account.

##### *1.1.2. Belarus*

Projects to support the Ministry of Emergency Situations are ongoing. In 2008 and 2009 projects were also started to support the Regulatory Authority to improve the legal and procedural base for a competent regulatory body and to implement license-based regulatory practices. This is particularly important as Belarus intends to commence constructing two units of a new nuclear power plant, due for completion in 2016 and 2018 respectively.

##### *1.1.3. Georgia*

One project was included in AAP 2008 Part 2 to support the Nuclear Safety Authority in transferring regulatory methodology and providing support in conducting licensing assessments for specific industrial projects. This project was temporarily put on hold and will be re-launched to give timely support to a second project, included under AAP 2009, to support the preparation of safety assessment for Georgian radioactive waste disposal and interim storage sites.

##### *1.1.4. Kazakhstan*

Nuclear safety cooperation with Kazakhstan was limited in recent years. Apart from a possible, but not yet programmed, contribution for the decommissioning of the plant at Aktau, no projects are currently envisaged.

##### *1.1.5. Russian Federation*

Between 1991 and 2006, more than €500 million were allocated to nuclear safety projects in Russia under the TACIS programme and this cooperation was expected to be continued under the INSC Programme. The objectives and the content of the new INSC Programme were accepted by the Russian partner after several rounds of discussions but, unfortunately, the Russian Federation was not prepared to conclude the Financing Agreements for AAP 2007 part II and AAP 2008 part II, as it wanted to develop a new framework for cooperation which departed from the past Technical

Assistance concept. Without financing agreements, no new projects could be started in Russia under the INSC.

However, projects for nuclear safety improvement of some nuclear power plants (NPPs), which had been initiated under the TACIS nuclear safety programme (and did not require a new financing agreement) were extended to ensure a proper completion of the ongoing works. This concerned mainly the Beloyarsk, Kalinin, Kola and Smolensk nuclear power plants, where on-going Plant Improvement Projects had to be completed and support for the improvement of the plant operation had to be finalised.

Despite the position of the Russian Government, the Commission remained open to resume nuclear safety cooperation and maintained contacts with the relevant parties and, in early 2010, discussions on concrete areas for cooperation were restarted.

#### *1.1.6. Ukraine*

##### **Support to the Operator**

On-Site Assistance was re-directed towards 'soft' projects which started being implemented in pilot NPPs and later replicated in other power plants. Projects were defined in a Joint Working Group representing all Ukrainian NPPs and Energoatom head offices.

##### **Radioactive waste management activities**

Cooperation projects were defined and agreed with an inter-ministerial task force and coordinated with Ukraine's own programmes for the implementation of the national strategy for the management of radioactive waste.

##### **Support to the State Nuclear Regulatory Committee of Ukraine (SNRCU)**

Direct institutional support for the development of the capabilities of the Regulator and its Technical Support Organisation (TSO) continued. The technical support related to the licensing activities in different Chernobyl radwaste facilities and in some NPPs continued. Potential support for the licensing of the upgrading programme of the Ukrainian NPPs is under consideration.

##### **Memorandum of Understanding (MoU) on Energy**

A MoU on Energy between the EU and Ukraine was concluded in December 2005<sup>2</sup>. This MoU established, in the context of the EU-Ukraine Action Plan under the European Neighbourhood Policy, a joint strategy towards the progressive integration of the Ukrainian energy market within the South-East Europe Energy Community. The MoU included four road maps covering specific areas, notably nuclear safety.

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<sup>2</sup> [http://ec.europa.eu/energy/international/bilateral\\_cooperation/doc/ukraine/2005\\_12\\_01\\_ukraine\\_mou.pdf](http://ec.europa.eu/energy/international/bilateral_cooperation/doc/ukraine/2005_12_01_ukraine_mou.pdf)

The evaluation of the nuclear safety of the Ukrainian NPPs, foreseen under the roadmap for nuclear safety was completed in 2010 and provided a benchmark for the achievements under the TACIS nuclear safety programme. It helped also to identify the needs to be addressed by future nuclear safety programmes.

### **The National NPP Modernisation/Upgrading Programme**

All but two of the currently operating units in Ukraine are 10 years old or more. All need to be upgraded to current nuclear safety standards and national requirements.

The newest plants, Khmelnytsky unit 2 and Rovno unit 4 (K2R4), were modernised under a programme which benefitted from Euratom and EBRD loans. A comprehensive upgrading programme (sometimes referred to as the 'Upgrade Package') for all 15 Ukrainian NPPs, including the K2R4 units, was submitted to the Ukrainian Nuclear Regulator in 2009 and later approved by the Ukrainian Cabinet of Ministers. The overall cost of the upgrading programme is estimated to be in the order of €1.5 billion; part of the programme may be covered by Euratom and EBRD loans as it was the case for K2R4.

Assistance to the Nuclear Regulator for the modernisation and upgrading programmes, started under TACIS, continued under the INSC.

### **National Training Centre**

To improve the safety management of the Ukrainian NPPs, a major project was launched to complete a National Training Centre for NNEG Energoatom personnel. The total EU contribution amounts to €4 million, representing about 1/3 of the cost, the other 2/3 being financed by Ukraine. The overall objective of this project is to establish a centre of excellence in Ukraine for the training of NNEG Energoatom maintenance and management personnel and to assure sustainable and continuous improvement in the (i) *maintenance activities* with regard to the NPPs and their equipment, (ii) *management capability* of NNEG Energoatom junior to senior management, and (iii) safety culture and improvement of the overall safety management capabilities of NPP personnel at all levels.

The first contract for this project was signed in August 2009 (Lot A - €5.7 million). It included the review and study of best international practice in maintenance and management training, training needs analysis, development and delivery of training programmes and materials, training of trainers and implementation of pilot training courses, and the development of technical specifications for Lots B and C. Lots B and C concern the supply of general (off the shelf) and special technical training tools (hardware and software). Tender preparation is ongoing and contracting is expected in 2011. The implementation of the contract for Lot A is well advanced and it is expected that the Centre will be opened, as scheduled, by the end of 2012.

## **1.2. European Neighbourhood (South)**

### *1.2.1. Egypt*

Early in 2008, the Commission organised a workshop in Egypt to gather information on the Egyptian nuclear power programme, to learn about the nuclear safety needs

and to explain the possibilities for assistance /cooperation under the INSC. The workshop was followed by an expert mission, which permitted the Commission to identify possible areas of cooperation and define projects to support the nuclear regulator and the development of the regulatory infrastructure in Egypt. The projects were included in AAP2008.

The first project in Egypt started in November 2009.

#### *1.2.2. Jordan*

As for Egypt, early in 2008 a workshop was organised in Jordan which was followed by expert missions. As a result, projects to support the nuclear regulator and the development of the regulatory infrastructure in Jordan were included in AAP 2008.

The first project in Jordan started in early 2010.

#### *1.2.3. Morocco*

A workshop and expert missions took place in 2008 and 2009. A first project was defined with the Moroccan Nuclear Safety and Radioprotection Authorities covering the establishment/development of an action plan for cooperation on capacity building for the enhancement of the Nuclear Regulatory Authority. The project included the preparation of an overview of the current situation, support for the establishment of an independent regulatory body based on the existing infrastructure; assistance in the development of the regulatory framework and strengthening and enhancing professional knowledge of the regulatory body and its TSO and public information. This €1 million project was part of AAP 2009 Part II and should start in 2011.

### **1.3. South East Asia**

A first workshop took place in Bangkok in July 2008 with representatives from Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam to gather information about their respective nuclear programmes, to learn about their nuclear safety needs and explain the possibilities for assistance /cooperation under the INSC. The meeting and bilateral discussions served also to identify interlocutors and to gauge interest in cooperation with the Commission under the INSC programme.

The workshop was followed by expert exploratory missions in 2009. In accordance with the criteria proposed by the Council, projects for cooperation with the regulatory authorities of the **Philippines** and **Vietnam** were developed and included in the AAP 2009 Part II.

### **1.4. Latin America**

#### *1.4.1. Brazil*

Brazil made a request for cooperation under INSC in 2008. A mission to Brazil and Argentina took place in 2009. Projects with the regulator and the nuclear operator in Brazil, for €2 and €3 million, respectively, were included in AAP 2009 Part II.



#### 1.4.2. *Argentina*

Argentina was visited immediately after Brazil. However, there were no sufficiently mature projects which would allow nuclear safety cooperation to start in the short term. Discussions are ongoing and project proposals may be included under a future AAP.

#### 1.4.3. *Mexico*

Contacts with Mexico were initiated at the end of 2009 and were followed by exploratory and expert missions in 2010. A cooperation project with the regulatory authority and a project with the Instituto Nacional de Investigaciones Nucleares (ININ) and others<sup>3</sup>, on waste management, were defined and included in AAP 2010 Part II.

### 1.5. **Regional projects**

A regional project for the support of the Nuclear Regulatory Authorities (NRA) in Armenia, Ukraine and, originally, Russia was launched in autumn 2009 (Russia was later removed as it not sign the Financing Agreement). The project involves establishing a team of experts in the partner Nuclear Regulatory Authority in order to support the NRAs in the preparation, management and analysis of their international cooperation projects in the field of nuclear safety, as well as to reinforce their organisational capacities and efficiency. The project also envisages the preparation of a Regional Cooperation Plan with indicators for better measuring and assessing the effectiveness and impact of the nuclear safety cooperation projects, as well as defining the needs of the partners for future cooperation projects.

## 2. **INTERNATIONAL COOPERATION**

### 2.1. **Cooperation with the International Atomic Energy Agency (IAEA)**

The joint project EC-IAEA-Ukraine for the safety evaluation of the Ukrainian Nuclear Power Plants (NPP) was completed by the end of 2009 and the final report published in early 2010<sup>4</sup>. It covered the fields of design safety, operational safety, waste management and regulatory issues. It confirmed compliance with most of the IAEA safety requirements in the four reviewed areas. In those areas where a lack of full compliance was identified, the Ukrainian NPPs and the Ukrainian Nuclear regulator (SNRCU) started undertaking actions to address the issues. The report also concluded that the State Nuclear Regulatory Committee of Ukraine (SNRCU) had a comprehensive regulatory system in place, that the regulatory legal infrastructure met IAEA requirements and that all nuclear-related international conventions were in force.

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<sup>3</sup> The main stakeholders are the National Institute for Nuclear Research (ININ), the Mexican Secretariat for Energy, the Mexican Regulatory Authority (National Commission for Nuclear Safety and Safeguards) and the nuclear operator (Federal Electricity Commission).

<sup>4</sup> EC-IAEA-Ukraine Joint Project: "Safety Evaluation of Ukrainian Nuclear Power Plants", supporting the Implementation of the Roadmap for Nuclear Safety of the Memorandum of Understanding on Cooperation in the Field of Energy between the EU and Ukraine. Vienna, Austria, February 2010

A project with the IAEA concerning off-site emergency preparedness was approved under AAP 2008, its implementation started in 2010 (budget €0.86 million).

Cooperation with the IAEA was expanded in 2009 with a jointly prepared project under AAP 2009 – Part II (budget €6.5 million). This cooperation covered 7 different domains: enhancing the seismic safety of nuclear installations; strengthening the regulatory capabilities for countries embarking on nuclear power; strengthening the regional capacity building system in Asia based on the Asian Nuclear Safety Network (ANSN); strengthening the international Nuclear Safety and Security Network (GNSSN) and its International Regulatory Network (RegNet); enhancing Safety Culture in Latin American countries operating NPPs; enhancing safety of the research reactor of Soviet-origin in Uzbekistan and, finally, an IAEA programme on benchmarking of liquid and solid waste generated by VVER reactors. Contribution Agreements with the IAEA for the implementation of these activities were concluded in 2009.

## **2.2. Contributions to International Funds (Chernobyl)**

The major projects at the Chernobyl site are supported by two international funds: the Chernobyl Shelter Fund (CSF) and the Nuclear Safety Account (NSA) which are managed by the European Bank for Reconstruction and Development (EBRD). The EU began contributing to both funds under the TACIS nuclear safety programme and continued under the INSC.

### *2.2.1. Chernobyl Shelter Fund (CSF)*

The CSF was established to implement the Shelter Implementation Plan (SIP), which includes the construction of the New Safe Confinement (NSC). Stabilization of the original "sarcophagus" was completed and major site infrastructure facilities and programmes have either been completed or are in the final acceptance stage. The design phase of the NSC project is approaching completion and major orders for structural steel and the main crane have been placed.

The Commission has presented several progress reports on the implementation of the CSF, the most recent in December 2007<sup>5</sup>. The EU has so far contributed some €240 million to the CSF and is the major contributor to the fund.

Important delays and cost overruns have occurred which will require additional funding.

### *2.2.2. Nuclear Safety Account*

The Nuclear Safety Account (NSA) was set up in 1993 to finance nuclear safety projects in Central and Eastern Europe. At Chernobyl it financed the projects for a Liquid Radioactive Treatment Plant and an Interim Spent Fuel Storage Facility (ISF-2).

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<sup>5</sup> COM(1999)470 of 12.10.1999, COM(2001)251 of 29.05.2001, COM(2004)481 of 14.05.2004 and COM(2007)825 of 19.12.2007

In July 2008, the Commission pledged an additional €15 million in EU funding to cover the cost increases in the ISF-2 project. The relevant provisions were made under AAP 2009 Part I and the contribution was transferred to the EBRD. The EU has so far contributed €36.2 million to the NSA.

### *2.2.3. Auditing and corrective measures*

In 2008 the Court of Auditors (CoA) carried out an audit to assess how far the Commission had fulfilled its responsibilities concerning the establishment, monitoring and follow-up of EU financial contributions used by the EBRD to mitigate the consequences of the Chernobyl disaster and to make the site environmentally safe. The CoA found that "the Commission has constantly monitored the implementation of the EBRD managed activities and thereby the use of the Community funds as effectively as has been possible" but that "the quality and timing of the information obtained did thus not allow the Commission to have a concrete influence on the operations ex ante".

In order to correct the situation, in October 2009, the Commission, the major donors (the members of the G8) and the EBRD agreed to create a G8 NSSG – EBRD Chernobyl Contact Group to ensure an efficient, more detailed and continuous exchange of information. The Group started working in December 2009 and several meetings took place in 2010 which led to a common understanding among donors and the EBRD about the technical issues affecting cost and schedule as well as risks. A complete overview of the situation concerning the cost and schedule was presented by the Bank and the Project Management Unit (PMU) in July 2010. The current financial gap to complete the projects under the CSF and NSA is €740 million. Pledging is due to take place in April 2011 to attract new contributions to the funds.

### 3. IMPLEMENTATION BY ANNUAL ACTION PROGRAMME

**TABLE 1<sup>6</sup>**

**2007 Annual Action Programme –Parts I and II**

Region/ Country/ Project Title	Duration	Amount (€)	Status (mid 2010)
<b>RUSSIAN FEDERATION</b>			
R1.03/07 Continuation of On-Site Assistance Kalinin NPP <sup>7</sup>	36 months	1,500,000	Implementation ongoing
R1.01/07 Continuation of On-Site Assistance Kola NPP	36 months	1,500,000	Implementation ongoing
R1.09/07 Sector Assistance to the Russian Nuclear Operator: Assistance to KURSK and LENINGRAD NPPs <sup>8</sup>	36 months	2,000,000	Project cancelled <sup>9</sup>
R1.10/07 Sector Assistance to the Russian Nuclear Operator: Assistance to Balakovo, Volgodonsk and Bilibino NPPs	36 months	2,000,000	Project cancelled
R1.11/07 Sector Assistance to the Russian Nuclear Operator: Safety Management in the Nuclear Power Plants of the Russian Federation	36 months	4,972,000	Project cancelled
R2.01/07: Strength and residual life of VVER-1000 internals and upper blocks under long-term operation integrity and the operational safety of the NPPs	36 months	3,500,000	Project cancelled
R2.02/07: Optimization of In-Service Inspection, non-destructive test and hydrotests of the VVER-1000 primary circuit components	36 months	2,000,000	Project cancelled
R2.03/07: Improvement of stress analysis standards for plant pressure boundary components of VVER reactors	24 months	1,000,000	Project cancelled
R3.01/07 - Institutional and technical cooperation with Rostechнадзор and its TSOs to develop their capabilities on the basis of transferred Western European safety principles and practices	36 months	2,800,000	Project cancelled
R4.01/07 - Co-operation on Radioactive Waste, Decommissioning and Remediation activities with the Russian Federation	36 months	10,000,000	Project cancelled
<b>Subtotal Russian Federation</b>		<b>31,772,000</b>	
<b>Sub-total Russian Federation excluding cancelled projects</b>		<b>3,500,000</b>	
<b>ENP EAST</b>			
<b>Armenia</b>			
A1.01/07: Safety Management in the Nuclear Power Plant of Armenia <sup>4</sup>	36 months	6,400,000	Implementation ongoing

<sup>6</sup> Table 1 includes also the projects for the Russian Federation which were initially approved by the INSC Committee but subsequently cancelled as the required Financing Agreement could not be concluded with Russia within the required timeframe.

<sup>7</sup> Included in AAP 2007 Part I

<sup>8</sup> Included in AAP 2007 Part II

<sup>9</sup> Most projects for the Russian Federation under AAP 2008 were cancelled (see footnote 6)

A3.01/07: Support to the Nuclear Safety authority of Armenia: institution building <sup>4</sup>	24 months	800,000	Implementation ongoing
<b>Subtotal Armenia</b>		<b>7,200,000</b>	
<b>Ukraine</b>			
U1.04/07 Continuation of On-Site Assistance Khmelnytsky NPP <sup>3</sup>	36 months	1,500,000	Implementation ongoing
U1.02/07 Continuation of On-Site Assistance South Ukraine NPP <sup>3</sup>	36 months	1,500,000	Implementation ongoing
Project on safety improvement in VVER Type NPPs <sup>3</sup> (Study in co-operation with IAEA)	24 months	2,000,000	Implementation ongoing
Chernobyl Shelter Fund <sup>3</sup>	36 months	10,000,000	Implementation ongoing
U1.05/07A: Safety Management in the Nuclear Power Plants of Ukraine "Completion of the National Maintenance and Management Training Centre for NNEGC Energoatom Personnel at Zaporozhye NPP <sup>4</sup>	36 months	14,000,000	Implementation ongoing
U2.01/07: Sector assistance for the development of a strategy for the long-term Ukrainian safety management <sup>4</sup>	36 months	2,500,000	Implementation ongoing
U3.01/07: Institutional and Technical cooperation with SNRCU to develop their capabilities on the basis of transferred European safety principles and practices <sup>4</sup>	24 months	2,800,000	Implementation ongoing
U4.02/07: Additional Equipment for ICSRM Project in Chernobyl <sup>4</sup>	18 months	1,500,000	Implementation ongoing
<b>Subtotal Ukraine</b>		<b>35,800,000</b>	
<b>Multi-country: (Armenia, Russia and Ukraine)</b>			
REG.01/07 Provision of policy and technical advice related to the cooperation with National regulatory Authorities and their TSO for strengthening their managerial and technical capabilities <sup>4</sup>	36 months	1,000,000	Implementation ongoing
REG 02/07 Children of Chernobyl: People to people exchange programmes for Chernobyl children and continued support in Ukraine and Belarus for health programmes to help the victims of the accident with the Chernobyl nuclear reactor <sup>4</sup>	36 months	1,500,000	Implementation ongoing
<b>Subtotal Multi-Country</b>		<b>2,500,000</b>	
<b>TOTAL AAP 2007</b>		<b>76,772,000</b>	

**TABLE 2<sup>10</sup>**

**2008 Annual Action Programme –Parts I and II and Part II reallocation**

Region/ Country/ Project Title	Duration	Amount	Status (mid 2010)
Accompanying measures 2008 for the management of Nuclear Safety Instrument (INSC) <sup>11</sup>	until 31/12/2008	1,000,000	Implementation ongoing
<b>RUSSIAN FEDERATION</b>			
Management of Nuclear Safety Instrument (INSC) in Russia includes R7.01/08 – Joint Management Unit in Moscow <sup>7</sup>	36 months	3,500,000	Implementation ongoing
R1.11/08 - Support to improved operational and maintenance procedures of Rosenergoatom NPPs <sup>12</sup>	36 months	6,500,000	Project cancelled <sup>6</sup>
R3.01/08 - Institutional and technical cooperation with Rostechnadzor and its TSOs to develop their capabilities on the basis of transferred Western European safety principles and practices <sup>5</sup>	36 months	2,000,000	Project cancelled <sup>6</sup>
R4.01/08 - Cooperation on Radioactive Waste, Decommissioning and Remediation activities with the Russian Federation <sup>8</sup>	36 months	5,000,000	Project cancelled <sup>6</sup>
<b>Subtotal Russian Federation</b>		<b>17,000,000</b>	
<b>Sub-total Russian Federation excluding cancelled projects</b>		<b>3,500,000</b>	
<b>ENP EAST</b>			
<b>Armenia</b>			
A1.01/08 - Support to Nuclear Operator of Armenia - Armenian Nuclear Power Plant <sup>8</sup>	36 months	5,500,000	Implementation ongoing
A5.01/08 - Nuclear Safeguards – Armenia <sup>9</sup>	48 months	500,000	Implementation ongoing
<b>Subtotal Armenia</b>		<b>6,000,000</b>	
<b>Belarus</b>			
BY3.01/08 - Institutional and technical cooperation with GOSATOMNADZOR to develop its capabilities on the basis of transferred European safety principles and practices (service and supply) <sup>5</sup>	30 months	2,200,000	Implementation ongoing
<b>Georgia</b>			
GE3.01/08 - Support to Nuclear Safety Authority (NRSS) of Georgia in the field of regulations, norms and radwaste management licensing activities <sup>8</sup>	24 months	800,000	Implementation ongoing
GE4.01/08 - Survey and strategic assessment of Georgian radwaste disposal and interim storage sites <sup>8</sup>	15 months	1,000,000	Implementation ongoing

<sup>10</sup> Table 2 includes also the projects for the Russian Federation which were initially approved by the INSC Committee but subsequently cancelled as the required Financing Agreement could not be concluded with Russia within the required timeframe. The projects which were approved as part of the reallocation of the funds initially foreseen for Russian projects are also mentioned.

<sup>11</sup> Included in AAP 2008 Part I

<sup>12</sup> Included in AAP 2008 Part II

<b>Subtotal Georgia</b>		<b>1,800,000</b>	
<b>Ukraine</b>			
Chernobyl Shelter Fund (third instalment) <sup>7</sup>	36 months	15,000,000	Implementation ongoing
Management of Nuclear Safety Instrument (INSC) in Ukraine <sup>7</sup>	36 months	3,500,000	Implementation ongoing
U1.05/08 - Support to improved operational, maintenance procedures and safety management at Energoatom NPPs <sup>8</sup>	36 months	8,355,000	Implementation ongoing
U3.01/08 - Cooperation with SNRCU for the licensing of radioactive waste management facilities and for the validation of soft on-site assistance (NPP level) <sup>8</sup>	36 months	1,700,000	Implementation ongoing
U3.02/08 - Support SNRCU to implement RODOS in the Information and Emergency Centre of Ukraine <sup>8</sup>	24 months	500,000	Implementation ongoing
U4.01/08: Improvement of radwaste classification and management in Ukraine <sup>8</sup>	36 months	8,000,000	Implementation ongoing
U3.03/08 Support to SNRCU in activities related to NPP safe operations of risk-informed approaches (operation and maintenance), integrated NPP safety oversight system, severe accident analysis and management, regulatory issues about reactor pressure vessel operations <sup>13</sup>	36 months	3,500,000	Implementation ongoing
U3.04/08 Support to SNRCU in the regulatory activity during com-missioning of the radioactive waste processing facilities at Rivne NPP and Zaporizhyya NPP <sup>9</sup>	24 months	500,000	Implementation ongoing
U4.02/08 Feasibility Study and Preliminary Design for a near-surface facility for the long-term storage of long-lived and high level radioactive waste at the "Vector" site, in the Chernobyl Exclusion Zone <sup>9</sup>	36 months	2,000,000	Implementation ongoing
Additional Community Contribution to the EBRD for the Chernobyl Shelter Fund <sup>9</sup>	36 months	10,700,000	Implementation ongoing
<b>Subtotal Ukraine</b>		<b>53,755,000</b>	
<b>Regional (Armenia and Russia)</b>			
REG 5.01/08 – Nuclear Safeguards – Russian Federation and Armenia <sup>8</sup>	48 months	3,700,000	Project cancelled <sup>6</sup>
<b>ENP SOUTH</b>			
<b>Egypt</b>			
EG3.01/08 Provision of assistance related to the first cooperation steps for developing and strengthening the capabilities of Egypt Atomic Energy Authority (EAEA) and its National Centre for Nuclear Safety and Radiation Control (NCNSRC) <sup>5</sup>	24 months	1,000,000	Implementation ongoing
<b>Jordan</b>			
JO3.01/08 - Provision of assistance related to the first cooperation steps for developing and strengthening the capabilities of Jordan Nuclear Regulatory Commission (JNRC) <sup>8</sup>	24 months	1,000,000	Implementation ongoing
<b>Multi-country: (Armenia, Belarus, Egypt, Georgia, Jordan and Russia)</b>			

<sup>13</sup> Included in AAP 2008 Part II - modification

MC2.01/08 - Enhancing national and regional preparedness for responding to radiation incidents and emergencies in some non-EU countries <sup>8</sup>	36 months	1,000,000	Implementation ongoing
<b>TOTAL AAP 2008</b>		71,255,000	



**TABLE 3**

**2009 Annual Action Programme –Parts I and II**

Region/ Country/ Project Title	Duration	Amount	Status (mid 2010)
Technical support for the project cycle management of nuclear safety projects (JRC) <sup>14</sup>	36 months	2,500,000	Implementation ongoing
Accompanying measures 2009 for the management of Nuclear Safety Instrument <sup>0</sup>	36 months	1,000,00	Implementation ongoing
<b>Subtotal Support Measures</b>		<b>3,500,000</b>	
<b>RUSSIAN FEDERATION</b>			
Sector Assistance to the Russian Nuclear Operator: Assistance to Smolensk and Beloyarsk NPPs <sup>10</sup>	24 months	2,000,000	Implementation ongoing
<b>Subtotal Russian Federation</b>		<b>2,000,000</b>	
<b>ENP EAST</b>			
<b>Armenia</b>			
A4.01/09 Development of Radioactive Waste Management Strategy for Armenia <sup>11</sup>	36 months	1,500,000	
A1.01/09: Support to Nuclear Operator of Armenia - Armenian Nuclear Power Plant <sup>11</sup>	36 months	7,500,000	
A3.01/09 Enhancement of the safety assessment capabilities of the Armenian Nuclear Regulatory Authority (ANRA) for licensing of Medzamor 2 safety improvements and of decommissioning activities (follow up of project AR/TS/06) <sup>11</sup>	36 months	2,000,000	
<b>Subtotal Armenia</b>		<b>11,000,000</b>	
<b>Belarus</b>			
BY3.01/09 Development of technical cooperation in nuclear safety in the field of assistance to Regulatory Authorities (Belarus) <sup>11</sup>	30 months	2,200,000	
<b>Georgia</b>			
G4.01/09 Support to the operators in the preparation of Safety Assessment Reports for Georgian radwaste disposal and interim storage sites <sup>11</sup>	36 months	500,000	
<b>Ukraine</b>			
Chernobyl Shelter Fund <sup>10</sup>	36 months	9,700,000	Implementation ongoing
Community Contribution to the EBRD for the Nuclear Safety Account (NSA) <sup>10</sup>	36 months	15,000,000	Implementation ongoing
U1.05/09: Cooperative safety programme to enhance the cultural, procedural and technical capability and effectiveness of NNEG and its NPP's <sup>15</sup>	36 months	8,800,000	
U4.01/09: Support to the establishment of a national waste management organization and the improvement of the radioactive waste management infrastructure in Ukraine <sup>11</sup>	36 months	5,000,000	
<b>Subtotal Ukraine</b>		<b>38,500,000</b>	

<sup>14</sup> Included in AAP 2009 Part I

<sup>15</sup> Included in AAP 2009 Part II

<b>ENP SOUTH</b>			
<b>Morocco</b>			
MO3.01/09 Provision of assistance related to the first cooperation steps for developing and strengthening the capabilities of Moroccan Nuclear Regulatory Authority and its TSO <sup>11</sup>	36 months	1,000,000	
<b>SOUTH EAST ASIA</b>			
<b>Philippines</b>			
PH3.01/09 Technical assistance for improving the legal framework for nuclear safety and strengthening the capabilities of the Regulatory Authority of the Philippines and its TSO <sup>11</sup>	36 months	1,500,000	
<b>Vietnam</b>			
VN3.01/09 Technical assistance for improving the legal framework for nuclear safety and strengthening the capabilities of the Regulatory Authority of Vietnam (VARANS) and its TSO <sup>11</sup>	36 months	2,000,000	
<b>LATIN AMERICA</b>			
<b>Brazil</b>			
BR1.01/09 Nuclear Safety Cooperation with the Nuclear operator of Brazil (Electronuclear) <sup>11</sup>	36 months	3,000,000	
BR3.01/09 Nuclear Safety Cooperation with the Regulatory Authorities of Brazil (CNEN) <sup>11</sup>	36 months	2,000,000	
<b>Subtotal Brazil</b>		<b>5,000,000</b>	
<b>Multi-country: (Armenia, Belarus, Egypt, Georgia, Jordan, Russia, and Ukraine)</b>			
MC.01/09 Contributions to IAEA Technical Cooperation (TC) and Nuclear Installations Safety (NIS) projects in non EU countries <sup>11</sup>	36 months	6,500,000	
<b>TOTAL AAP 2009</b>		<b>73,700,000</b>	

**TABLE 4**

**Countries' allocations and contracting status by mid 2010**

AAP		RUSSIA	ARMENIA	BELARUS	GEORGIA	UKRAINE	EGYPT	JORDAN	MOROCCO	PHILIPPINES	VIETNAM	BRAZIL	MULTI-COUNTRY /REGIONAL PROJECTS /PROGRAMME SUPPORT	Support Measures
2007-I	Allocated	3,000,000				5,000,000								
	Contracted	3,000,000				5,000,000								
2007-II	Allocated	0	7,200,000			20,800,000							2,500,000	
	Contracted		6,900,000			7,200,000							2,200,000	
2008-I	Allocated	3,500,000				3,500,000							1,000,000	<b>1,000,000</b>
	Contracted	1,500,000				3,000,000								
2008-II	Allocated	0	5,500,000	2,200,000	1,800,000	18,555,000	1,000,000	1,000,000					1,000,000	
	Contracted		1,300,000			2,000,000	1,000,000	1,000,000						
2008 – Realloc.	Allocated		500,000			16,700,000								
	Contracted					10,700,000								
2009-I	Allocated	2,000,000												<b>3,500,000</b>
	Contracted	2,000,000												
2009-II	Allocated	0	11,000,000	2,200,000	500,000	13,800,000			1,000,000	1,500,000	2,000,000	5,000,000	6,500,000	
	Contracted													

<b>TOTAL</b>	Allocated	<b>8,500,000</b>	<b>24,200,000</b>	<b>4,400,000</b>	<b>2,300,000</b>	<b>78,355,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,500,000</b>	<b>2,000,000</b>	<b>5,000,000</b>	<b>11,000,000</b>	<b>4,500,000</b>
	<i>Contracted</i>	<i>6,500,000</i>	<i>8,200,000</i>	<i>0</i>	<i>0</i>	<i>27,900,000</i>	<i>1,000,000</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2,200,000</i>	

**CHERNOBYL Payments for the periods:**

2007	10,000,000
2008	25,700,000
2009	24,700,000
	<b>60,400,000</b>

#### 4. IMPLEMENTATION BY SECTOR

**TABLE 5**

**Summary of Programme implementation by sector**

Annual Action Programme		On-Site Assistance /Support to the Operator	Regulatory Authorities	Nuclear Waste Management	Safeguards	Multi-country /Regional projects /Programme Support	Chernobyl projects	IAEA Cooperation	TOTAL
<b>2007</b>	Allocated	28,900,000	4,600,000	1,500,000		1,500,000	10,000,000	2,000,000	76,772,000*
	Contracted	19,185,000	1,500,000	1,490,000		1,344,000	10,000,000	2,000,000	35,519,000
	Paid	8,113,000	663,000	1,134,000		714,000	10,000,000	1,795,000	22,419,000
<b>2008</b>	Allocated	18,355,000	6,700,000	11,000,000	500,000	9,000,000	25,700,000		71,255,000
	Contracted	1,300,000	2,000,000	2,000,000		5,461,000	25,700,000		36,461,000
	Paid	780,000	400,000	1,900,000		3,637,000	25,700,000		32,417,000
<b>2009</b>	Allocated	21,300,000	10,700,000	7,000,000		3,500,000	24,700,000	6,500,000	73,700,000
	Contracted	2,000,000				3,333,000	24,700,000	6,500,000	36,533,000
	Paid	608,000				1,902,000	24,700,000	1,584,000	28,794,000

\* Includes the €28.272 million that were de-committed after the *Russian Federation* did not sign the 2007 Financing Agreement.

## 5. CONCLUSIONS

The EU Results-Oriented Monitoring Programme for European Neighbourhood and Partnership Countries<sup>16</sup> presented the following conclusions on the INSC nuclear safety projects.

- The projects continue to be designed in-line with the strategic documents of the Instrument of Nuclear Safety Cooperation (INSC). The thematic sectors duly pursue overall objectives with improvements in (i) safety culture at the Operator of Nuclear Power Plants (NPPs), (ii) competencies of Regulators, and (iii) safe management of radioactive waste & decommissioning and nuclear material accountancy and control. The relevance is thus assessed as being highly appropriate and compatible with the IAEA 2007 Fundamental Safety Principles.
- The enhancement of the nuclear safety culture through INSC duly incorporates lessons learned from the Tacis Nuclear Safety programme, while properly addressing emerging needs within a mandate no longer restricted to the region of the former Soviet Union. Grades of INSC monitoring reports up to mid-2010 show that the performance metrics continue to be high<sup>17</sup>.
- The transition to INSC did not cause an interruption in the cooperation with Armenia and Ukraine, while for implementing INSC projects in the Russian Federation a special basis is only now being established, in line with provisions in the Council Regulation (No. 300/2007).
- INSC projects with Egypt and Jordan show that: (i) cooperation with staff of the national nuclear regulator is highly effective, (ii) exchanges of practices are good, (iii) national absorbing capacity is high, (iv) language barriers do not exist, and (v) lack of an 'old' regulatory framework is an asset, as changing old habits is often difficult.
- The new initiative to enhance the regulatory oversight through INSC projects is appropriate as this places the involved activities (e.g. review of instruments, or check material defects) within an overall perspective of the principal regulatory responsibilities on Licensing, Regulation and Inspection. The agreement being pursued on a system of indicators is good. The applied self-assessments are best

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<sup>16</sup> Monitoring System of the Implementation of Projects and Programmes of External Co-operation financed by the EU - Result-Oriented Monitoring (ROM) for European Neighbourhood Countries, Overview on INSC projects monitored until mid-2010, Report by the INTEGRATION led Consortium (INTEGRATION - ICCS-NTUA (EPU) –ECORYS), November 2010.

<sup>17</sup> Scoring overview:  
3.26 Design  
3.02 Efficiency  
3.14 Effectiveness  
3.06 Impact  
3.07 Sustainability  
3.11 Overall  
In which 4 is 'very good' and 3 is 'good', 2 reflects 'problems' and 1 'deficiencies'

aligned with recent actions in this area by the European Nuclear Safety Regulators Group (ENSREG).

- INSC projects with a focus on the exchange of know-how and practices are appreciated by partners in target countries. After having initial hesitations regarding the value of projects not involving the supply of equipment, the partner organisations have recognised the benefits of these ‘soft’ cooperation projects.

Projects in the other regions covered so far by the INSC (Latin America and South East Asia) are not sufficiently advanced to draw meaningful conclusions about their implementation.