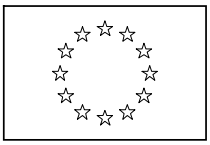

COMMISSION OF THE EUROPEAN COMMUNITIES

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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

Commission support to nuclear safety in the Newly Independent States and Central and Eastern Europe

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1. INTRODUCTION

The EU and its eastern neighbours are dependent on each other in matters of nuclear safety. Recognising this inter-dependence the EU has taken a prominent role in international efforts to help the countries of Central and Eastern Europe and the Newly Independent States (NIS) to improve their levels of nuclear safety. The enlargement process initiated in 1997 has added a new dimension and led the EU to stress repeatedly the importance of high levels of nuclear safety in central and eastern Europe.

In March 1998[1] the Commission adopted a Communication which set out the actions taken by the Community in the area of nuclear safety in central and eastern Europe and the NIS[2]. The Communication contained proposals for the re-orientation of policy in this sector. The purpose of the present Communication is to provide an update on developments since 1998 and to present the Commission's current approach, both in terms of policy and implementation. The importance of these issues has been underlined by the European Parliament and the Court of Auditors.

2. CURRENT COMMISSION APPROACH

The Commission's approach to nuclear safety in central and eastern Europe and the NIS is based on two main objectives which are fully in line with the policy of the international community as decided by the G7 in 1992:

– in the short term, to improve operational safety; make near term technical improvements to plants based on safety assessments and to enhance regulatory regimes;

– in the longer term, to examine the scope for replacing less safe plants by the development of alternative energy sources and more efficient use of energy and to examine the potential for upgrading plants of more recent design.

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1 COM (1998) 134 of March 1998

2 In 1999 the Commission published a report on actions undertaken under the Phare and Tacis programme, entitled "The European Commission and nuclear safety in central Europe and the NIS"

In pursuit of these objectives the Commission has developed a range of actions and instruments. It works with partner countries to promote policy dialogue and provides technical and financial assistance to government, regulators and operators to support the improvement of safety levels and also aims to ensure a high level of human health protection in Member States and in neighbouring countries. . Starting in 1992, the regulatory authorities of the NIS and the Countries of Central and Eastern Europe have been invited to participate in a number of Commission working groups and committees[3] together with their counterparts from the Union. More recently a new group was formed bringing together the nuclear regulators and operators from the Member States[4] and the candidate countries.

The Phare (for Central and Eastern Europe) and Tacis (for the NIS) nuclear safety technical assistance programmes have been developed to pursue the Community's nuclear safety policy objectives. Euratom loans, and a number of other small grant programmes, are also available. As part of wider international co-operation in this field the EU has been instrumental in establishing the Nuclear Safety Account (NSA), administered by the EBRD. These actions also form part of wider efforts to help partner countries to introduce reforms in the energy sector which respect sound economic, financial and environmental criteria. Nevertheless, the financial support which the EU can make available remains limited when compared to the needs.

In the enlargement process the Commission's actions take account of a number of Council conclusions and EP resolutions. For example, in December 1998 the Council reaffirmed its commitment to help the candidate countries to improve nuclear safety, as well as to develop economically and environmentally sound energy strategies for the replacement of the less safe nuclear reactors. As requested by the Council the Commission has given a high priority to nuclear safety in the Accession Partnerships and is using pre-accession funds to pursue these priorities.

Progress to date

Increasing nuclear safety levels in these countries is a long term project but already the following achievements can be indicated

- Agreement to **close non-upgradable units in Lithuania, Slovakia and Bulgaria**. The Commission is now working closely with each government to ensure the implementation of the agreed closure commitments and to support the decommissioning process. Three special national PHARE programmes have been established to provide financial assistance to support the decommissioning efforts and consequential measures in the energy sectors of the three countries. A donors' conference for the decommissioning of the

[3] The CONCERT group and the Nuclear Regulators Working Group (NRWG)
[4] The European Nuclear Installations Safety Group (ENIS – G)

Ignalina power plant in Lithuania was organised together with the Commission on 20 June 2000 and yielded more than € 200 M of commitments.

- The EU has made a major contribution to dealing with the problems at the **Chernobyl** nuclear power plant. It has helped towards the decommissioning of units 1, 2 and 3 and has helped to draw up the shelter implementation plan for reactor 4 which was destroyed in 1986. The combination of international pressure, willingness to help improve safety levels and develop alternative energy sources have all contributed to the recent decision of the Ukrainian authorities to close Chernobyl by 15 December 2000.

- **On site assistance** has been provided on a continuous basis through EU operators **at 14 sites in the NIS and in Bulgaria**. The assistance has concentrated on the level of design safety, operating and surveillance conditions, the organisation of operational safety and on the provision of equipment.

- **Independent regulatory authorities** have been strengthened through EU technical and financial assistance and their closer involvement with EU regulators in a number of forums. These include the CONCERT Group which involves regulators from the EU, NIS and the candidate countries and the Nuclear Regulators Working Group (NRWG) that is open to regulators from Member States and the candidate countries. The necessary legal framework has been put in place in central and eastern Europe and the NIS, although the quality and performance of the regulatory authorities varies from one country to another, and is generally improving more rapidly in the candidate countries than in Russia or Ukraine. Despite the progress made further work is still needed. The overall safety culture is being improved through more formal and regular dialogue between plant operators and regulatory authorities.

- Technical assistance has been provided through Phare and Tacis (linked with possible Euratom loans) to help raise the **level of safety at new nuclear power plants** under construction (Mochovce in Slovakia, Khmelnitsky and Rovno in Ukraine and Kalinin in Russia).

- **Operating practices** have been improved throughout the region and some plants have been modernised thanks to the **provision of equipment.**

- Attention has been focused on the problem of **waste management** and on problems linked to the treatment, storage and disposal of nuclear waste and spent fuel. In particular, the international community has been made aware of the magnitude of the environmental threat posed by the spent nuclear fuel from icebreakers and nuclear submarines in north west Russia where there is a dramatic shortage of storage or other management facilities. In the countries of Central and Eastern Europe, the situation with regard to radioactive waste management has been comprehensively documented and reported..

- The profile of the issues related to the **decommissioning of nuclear facilities** has been raised. Many of the problems, which are not just of a technical but also of a legal, environmental and financial nature, are now being addressed and, in particular, funds are being set up by nuclear utilities to collect the money that will be needed to cover the costs of dismantling facilities and disposing of the waste.

- The opening of the Russian Methodological and Training Centre (RMTC) was a major step in support for the establishment of a State System for Nuclear Material Accounting and Control in Russia, which include several other projects (training, metrology, analytical development, production of equipment, implementation in nuclear power plants). Support was also given to the authorities of the Candidates Countries in their fight against illicit trafficking.

- In total, over the period 1991-1999 the EU has committed € 913 million to international efforts to improve nuclear safety levels in central and eastern Europe and the NIS (€ 192 million under the Phare programme and € 721 under Tacis, including a 100 million contribution to the Chernobyl Shelter Fund). A total of 950 projects have been financed (300 under Phare and 650 under Tacis), 450 projects are ongoing and another 200 are being prepared.

- In addition to support for nuclear safety, the EU has also provided support for developing and improving energy strategies including the development of alternative energy sources and improving energy efficiency.

3. ANALYSIS BY REGION AND NEXT STEPS

a) Candidate countries

Nuclear energy generation will continue to be an important part of the overall energy mix in at least six of the candidate countries in the foreseeable future. Seven of the thirteen candidate countries have nuclear power plants either in operation or under construction.

Three candidate countries have also undertaken to decommission nuclear power units which were considered not to be upgradable at a reasonable cost.

The Commission is therefore involved in **implementation of closure commitments** on the one hand and in **other nuclear safety issues** on the other.

Closure commitments

Following discussions with the Commission, Bulgaria, Lithuania and Slovakia have undertaken commitments for early definitive closure of their non-upgradable nuclear power reactors. In Bulgaria, Kozloduy units 1 and 2 (VVER-440/230 type reactors) will be closed before 2003. The decision on the closure

dates of units 3 and 4 (VVER-440/230 type reactors) will be taken in 2002 in agreement with the Commission: these dates will be before the presently envisaged dates of 2008 and 2010 and the Commission understands that closure will be in 2006 at the latest. In Lithuania, Ignalina unit 1 (RBMK type reactor) will be closed before 2005, a decision on the closure of unit 2 (RBMK type reactor) will be taken in 2004 and the Commission understands that the closure will take place in 2009 at the latest. In Slovakia the two units of Bohunice VI (VVER-440/230 type reactors) will shutdown in 2006 and 2008 respectively.

The Commission has undertaken to provide financial assistance for the implementation of the decommissioning of the Bohunice V1, Ignalina and Kozloduy 1-4 nuclear power reactors as well as for some consequential measures in the energy sector. Financing Memoranda on support from Phare funds from the 1999 budget have already been signed with Slovakia and Lithuania, committing € 10 million to each of these countries. The Commission has indicated further annual support of at least € 20 million each. The total support will amount to at least € 150 M for Slovakia and € 165 for Lithuania by the end of the present 2000-2006 Financial Perspective. As part of the Understanding reached with Bulgaria, the Commission offered a multi-annual assistance package amounting to €200 M for the period up to 2006. The delivery of half of this amount will depend on the confirmation, in 2002, of the Understanding on definitive closure dates for Units 3 and 4. The Commission will deliver the bulk of this financial support via EBRD-managed international grant funds established on 12 June 2000 (respectively, the "Ignalina, Bohunice or Kozloduy International Decommissioning Support Fund").

In addition, EURATOM loans have been offered to the three countries. So far, Bulgaria has taken advantage of this offer by concluding a loan of € 212.5 M for the modernisation and safety upgrading of Kozloduy units 5 and 6 (VVER-1000 type reactors).

The Commission will continue to work together with Bulgaria, Lithuania and Slovakia as they implement the agreed closure commitments, including on early closure dates for Kozloduy units 3 and 4 and Ignalina 2. Community financial assistance, and in particular the grants channelled through the international decommissioning support funds and Euratom loans are linked to the implementation by the countries of their agreed closure commitments.

Commitments to close non-upgradable reactors do not in themselves increase nuclear safety levels. As long as these reactors are in operation, operators will have to remain committed to a high level of operational nuclear safety. Simultaneously, regulators will need to remain vigilant and, in view of their additional responsibilities related to preparations for decommissioning, even be reinforced during this period.

Other nuclear safety issues.

In a number of candidate countries other nuclear power reactors are either of Western design or of a Soviet design which can be upgraded to acceptable safety levels. These reactors are thus suitable for operation over the period of their technical lifetime. They comprise VVER-1000 reactor units 5 and 6 at Kozloduy in Bulgaria; the Western designed Cernavoda-1 (operating) and Cernavoda 2 (under construction) in Romania; two VVER-440/213 units at Bohunice and two further such units at Mochovce in Slovakia, the Western designed Krsko NPP in Slovenia (jointly owned by Slovenia and Croatia); four units also of VVER-440/213 design at Paks in Hungary and four units of the same type at Dukovany in the Czech Republic. Also in the Czech Republic, at Temelin, two VVER-1000 units are to be commissioned following extensive modernisation.

To further promote safety in nuclear energy operations, the Commission will, together with the concerned candidate countries, define additional support which could include the following:

- **Support for nuclear regulators** and technical support organisations. This support should continue. The competence and independence of the Nuclear Safety Authorities in Phare Countries has improved during the last seven/eight years. It is nonetheless true that progress has been uneven: several countries have progressed further than others but support should continue as this is a corner-stone of nuclear safety. The role of the Regulatory Assistance Management Group (RAMG) and the Technical Support Organisation Group (TSOG) continues to be very important in this area.

- **Safety improvements** at the Ignalina 2 and Kozloduy 3 and 4 reactors. The Lithuanian Government has undertaken to decide on the decommissioning of *Unit 2 of Ignalina* in 2004 and operation is likely to continue for a limited number of years beyond this date. Some basic improvements are already underway with Phare support. A new safety analysis is to be performed for the period beyond 2002. For *Kozloduy units 3 and 4* it is also necessary to ensure that adequate safety be maintained for the rest of the foreseen lifetime. No Community assistance will be considered for projects which could contribute to prolonging the operation of these reactors beyond the provisions of the agreed closure commitments.

- **In specific cases, support for the safety enhancing programmes of** VVER 440-213 and VVER 1000 reactors, in the form of regulatory review, project management and operational assistance. It should be noted that Agenda 2000 already stated that the improvement programmes for these upgradable reactors have to be carried out in the next 6-7 years. In principle, as in the EU, the utilities themselves should cover the full cost of all safety improvements for their units and make appropriate regulatory and financial provisions for their eventual decommissioning.

- **Research.** The candidate countries will be increasingly involved in research co-operation with the Member States under the fifth framework programme.

- **Off-site emergency preparedness**. Among other measures, due regard will be given to surveillance measures for public health, particularly with regard to exposure to radiation.

- **Radioactive waste and spent fuel**. Continued efforts aimed at: strengthening the regulatory, institutional or safety culture infrastructure in these countries; evaluating the situation at specific sites, especially in those fields in which local expertise is still lacking, such as long-term safety assessments of existing repositories; storage of spent fuel from nuclear reactors, assessing the environmental threats posed by contaminated uranium mining sites and encouraging their restoration etc.

- **Safeguards projects**. The objective is to ensure that the Candidate Countries will fully adopt the Community acquis. Specific attention should be devoted to the support of the training programme for local inspectors and development of methodologies for the accountability of nuclear material and techniques preventing illicit trafficking.

Accession negotiations

On several occasions, the European Council has recalled the importance of a high level of nuclear safety in Central and Eastern Europe and called on the Council to consider how to address the issue of nuclear safety in the framework of the enlargement process in accordance with the relevant Council conclusions. The Commission is contributing to these deliberations.

b) New Independent States (NIS)

The context of the Commission's programme in the NIS is very different from that in the candidate countries. It has been difficult to agree a general approach to safety issues with some of these countries. The budget available for nuclear safety projects is very small in relation to needs and the situation is aggravated by the fact that both the countries and their utility companies continue to face severe economic difficulties and budgetary shortages. There is still no full cost recovery for electricity sold. As a result, there is little money available for improving safety, decommissioning of the plants, management of the spent nuclear fuel and radioactive waste or for developing alternative sources of energy.

Future policy orientations

Safety levels in the NIS continue to give cause for concern in western countries and it will take time and considerable financial investment to raise them. Future policy of the Commission has to bear in mind the differences between the countries of the region (in terms of size, industrial base, geography and willingness to engage in debate on nuclear safety) and the limited financial resources available to the Community and to these countries.

The new Tacis Regulation[5], which covers the period 2000-2006, sets out three priorities for the nuclear safety programme in the NIS:

- The promotion of an effective **nuclear safety culture**, in particular through continuous support for regulatory bodies and technical support organisations and, at the plant level, through on-site assistance, including in the form of supply of equipment

- The development and implementation of **strategies for dealing with spent fuel**, **decommissioning and managing nuclear waste**

- Contributing to **international initiatives** such as the G7/EU initiative on the closure of Chernobyl

The new Regulation also provides for support in the application of efficient safeguards systems.

Future EU assistance could include financial support:

1. To strengthen the role of the national **nuclear safety authorities** to encourage improved licensing procedures and to ensure regulatory involvement in all relevant nuclear activities

2. For on-site assistance, **linking NIS nuclear power plants with EU operators**. In a limited number of larger projects, the supply of equipment may be funded as part of a comprehensive approach covering safety aspects of project proposals, licensing, procurement, installation and adaptation of operational procedures. In such cases the regulator must be fully involved. The contractual responsibility of the on-site consultant for timely implementation will be increased.

3. For certain **design safety projects** which are not linked to a particular installation if the need arises from more strict regulatory requirements and/or if such projects are necessary to prepare larger projects.

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5 Official Journal 99/2000 L12 of 18/01/2000

4. **Regulatory type work may** include safety analyses which are compatible with the remaining lifetime of the reactors. For the oldest reactors, such analyses should not be used to try to extend life beyond design life.

5. For improving **spent fuel and radioactive waste management** and encouraging the timely preparation of decommissioning. This will include establishing the necessary regulatory, liability, environmental and financial regimes.

6. To help **improve the corporate structures** of nuclear utilities and industrial nuclear operators in order to bring about a financially sound electricity and nuclear sector. Such assistance may also help to foster co-operation with EU industry.

7. To provide **Euratom loans**, where possible and appropriate, for significant safety upgrading investments as well as for the completion of reactors up to Western safety levels in the context of an overall agreed nuclear safety and energy efficiency policy.

8. To promote and develop s**afeguards projects with three major objectives:** training of inspectors and plant operators, development of national infrastructures for the accountability of nuclear material and implementation at plant level, to prevent illicit trafficking.

The implementation of this assistance will be subject to appropriate technical control and each project will be technically followed up by the Commission. The Commission will also ensure that nuclear safety issues are discussed in the various fora established under the Partnership and Co-operation Agreements, including at the highest political level, and in other international groups and committees..

Country specific aspects

Armenia

The Armenian government has repeatedly reconfirmed its commitment to close this plant within a few years (by 2004), provided that a secure energy alternative supply is available. A working group of experts from the Commission and the Armenian government has been set up to develop a comprehensive plan for this purpose.

It is expected that work on alternative sources of supply will progress sufficiently so as to allow the Armenian government to formalise its policy soon and the EU is ready to provide financial support as part of this process. In the very short term, Tacis continues to provide on-site assistance at the Medzamor Nuclear Power Plant with limited supply of safety equipment.

Kazakhstan

In Kazakhstan, the Aktau nuclear power plant has benefited since 1994 from on-site assistance. The plant has received a range of equipment as well as general operational assistance. Moreover, a rather unique case in the NIS, the government decided in 1999 not to restart the plant which needs thus to be decommissioned. An important study is planned to assist the plant in preparing decommissioning.

For the time being, assistance is limited to the preparation of decommissioning, in co-ordination with other interested parties (IAEA, US, Japan).

If a wider international initiative is taken to support actual decommissioning, the EU might need to reconsider its position.

Russian Federation

As far as nuclear safety in the NIS is concerned, the Russian Federation is particularly important. Russia is the only state of the former Soviet Union involved in all aspects of nuclear power, from uranium mining to plant design, power generation and spent fuel reprocessing. Some 12% of electricity in Russia is generated by nuclear power. Russia's civil nuclear industry is also a major source of employment, accounting for approximately 300.000 people (direct jobs).

More than in other countries, EU funding is not a vital element but considered as a welcome addition to national efforts. Given the limited size of the available EU budget, the large number of operating reactors and the special economic conditions in Russia, it would be impossible for the EU to offer Russia financial assistance equivalent to what has been made available to the candidate countries and to Ukraine. Nonetheless, the basic policy orientation is the same – to use the technical and financial resources available to the EU to help the Russian Federation to improve safety levels.

Although there has been substantial co-operation between EU and Russian experts during the last years in the framework of a very large number of Tacis projects, it often appeared that there were basic differences of approach to nuclear safety matters. This is also demonstrated by the difficult dialogue in the framework of the G7 on nuclear issues and the lasting de facto breach by Russia of important provisions of its agreement with the EBRD Nuclear Safety Account. These breaches consist of the restart of Kursk 1 (RBMK type) without an adequate safety assessment and failure to abide by the agreed licensing procedures and end of operation for its first generation reactors.

Russia argues that these reactors are needed to support the local economy and has a policy of life extension for its first generation VVER-440/230 reactors, beyond the original design life of 30 years. The Commission does not support this policy.

It is clear, nevertheless, that Russia is committed to maintaining a substantial contribution of nuclear energy in its overall energy mix. The Russian government is pursuing the completion of several new reactors over the coming years and has a long term programme to develop a new generation of nuclear reactors. This policy background has to be respected and the Commission wishes to promote increased co-operation with Russia in order to help Russia use nuclear energy safely. Where possible and appropriate, the Commission will support the use of Euratom loans for significant safety upgrading investments as well as for the completion of reactors to Western safety levels, in the context of an overall agreed nuclear safety and energy policy.

Future policy could be based on the following elements:

- Continuation of **support to the nuclear regulatory bodies** with a view to increasing the strength and independence of the regulatory body/bodies and enhancing safety culture.

- Within the limit of the overall policy outlined above concerning first generation reactors, support to as many as possible nuclear operators to enhance safety culture, in particular through continued on-site assistance. This would include a limited number of larger equipment supplies with increased participation of local industry.

- Follow-up to Russian requests for **Euratom loan financing** for the completion and safety upgrading of the Kalinin 3 reactor (VVER-1000 type). This should be linked to the phasing out of at least one of the first generation VVER 440-230 reactors.

- Continuation of co-operation in promoting a high standard of nuclear safety. Full and timely implementation of the Nuclear Safety Account Grant Agreement.

- Co-operation in **spent fuel and radioactive waste management in North West Russia**. An enormous quantity of spent fuel from nuclear submarines is stored under poor conditions. This poses a major threat to the Arctic environment. The primary objectives of this co-operation would be to help increase the capacity for the storage of the spent nuclear fuel from the Russian nuclear submarines and to remove the fuel from those submarines already removed from service.

- Active pursuit of current negotiations by the Commission and a number of donor countries to conclude a new multilateral agreement with Russia (MNEPR). Once adopted, this agreement should enable international assistance to be efficiently implemented as it provides for a common legal basis as well as for co-ordination and co-financing mechanisms.

- Co-operation in the field of nuclear safeguards through the implementation of a long term programme agreed by the European Council in December 1994: methodological and training centres, metrological and analytical laboratories, production of equipment and establishment of a certification centre, implementation at plant level, support to Gosatomnadzor.

- Close co-ordination with the Research Framework Programme of the European Commission and with the projects promoted by the ISTC.

- Co-operation in the reform of the energy sector and support to promote more efficient energy use

Ukraine

The EU has been the driving force in the implementation of the 1995 Memorandum of Understanding between the G7 and Ukraine on the closure of Chernobyl. The Commission has focused on addressing the following key priorities, funded by a grant of €100 M under the Tacis nuclear safety programme 1994-1996:

- The establishment of a **decommissioning** plan for the Chernobyl reactors and the construction of specific decommissioning facilities (solid waste recovery, treatment and storage) at Chernobyl.

- Support for **power sector reform** and non- nuclear energy projects in Ukraine.

- Support for the preparation of the major **power replacement project** (Khmelnitsky 2 and Rovno 4, also known as "K2R4"), which is to ensure that the two VVER-1000 reactors under construction will be completed to an internationally acceptable safety level. For this project, the Commission is considering a Euratom loan with complementary financing from the EBRD and from bilateral export credit agencies. Tacis has been implementing an extensive programme including support in the due diligence procedure required by the Banks as well as support to the Ukrainian safety authorities, the Ukrainian operating organisations and Ukrainian engineering organisations. As a result, a modernisation programme has been developed which would bring the completed plants to a safety level consistent with international practices.

- Designing a programme to transform the current shelter (sarcophagus) around unit 4 of Chernobyl NPP into a stable, environmentally safe system.

This **Shelter Implementation Plan (SIP)** is now being implemented under a special fund, the Chernobyl Shelter Fund, managed by the EBRD, and to which Tacis has contributed € 90.4 M ($100 M) over 1998-1999.

In the light of the announcement the government of Ukraine that Chernobyl is to close by 15 December 2000, **the following strategy is proposed**:

- Continuation of Community assistance to Chernobyl through the Tacis programme and other means, even when the last Chernobyl reactor is closed. This will in particular include decommissioning of the Chernobyl reactors, management of the radioactive wastes and assistance to mitigate the social consequences of the plant closure in the Slavutich region.

- Continuation of Tacis grants to the nuclear regulatory bodies and to nuclear installations with a view to enhancing safety culture

- Encouragement to press ahead with energy sector reform, including privatisation and improved cash collection.. Continued technical assistance to improve energy efficiency

- A second contribution to the Chernobyl Shelter Fund of €100m (to be delivered over the period 2001-2004). This amount was pledged by the Commission at a donor conference on 5 July 2000.

- Continuation of co-operation with Ukraine and the EBRD on the K2R4 project to ensure, through constant political dialogue with Ukraine, that these two reactors are completed and operated to the highest possible safety standard. The Commission confirms its commitment in line with the Memorandum of Understanding to assist the Ukraine in the preparation and implementation of energy projects based on least cost principles.

- Close co-ordination with the Research Framework Programme of the European Commission and by the STCU.

Other initiatives

With the end of the Soviet Union came the need to redirect the talents of nuclear weapons experts. In order to promote mutual confidence and inter-action between EU and NIS scientists the Commission has been active in promoting the International Science and Technology Centre (ISTC) of Moscow which was established in 1992 by the European Communities and the governments of the USA, Japan and the Russian Federation. It operates in the Russian Federation and other CIS countries including Kazakstan, Armenia, Kyrgyztan, Georgia and Belarus. A similar centre was established in Kiev (STCU). The area of nuclear safety offers real potential for long-term civil employment. Both the Russian and other NIS authorities have indicated that nuclear safety projects aim to promote the diffusion of a safety culture within the competent and complementary organisations of Gosatomnadzor and Minatom.

4. IMPLEMENTATION

In implementing the approach described above the Commission has to take account of the specific nature of the nuclear sector. The Commission's rules for tendering and contracting Community assistance are designed for situations where normal competition exists. However, in the nuclear safety sector there are very few potential suppliers of technical assistance and equipment and the Commission needs to be satisfied that the entities/companies delivering the assistance have the capacity to take appropriate responsibility in this important sector. There is a high degree of involvement by the public authorities (for example, there are nine independent regulatory authorities in the EU) and the assistance which is being provided is also channelled directly to public regulators in the beneficiary countries. Technical support is provided by a small number of non commercial bodies established in the Member States, several of which are integrated into the national safety authorities. Therefore the Commission considers that, in the absence of competition and given the need to work with public bodies in order to deliver the desired improvement in nuclear safety levels, contracting rules need to be applied taking account of the realities of the sector

In the past the pace of project implementation has been adversely affected by a number of factors. Much has already been done to improve performance, for example, by reducing the overall number of contracts, cancelling certain projects, substitution of TPEG[6] by increasing the involvement of the JRC etc. However, a large backlog remains. Annex 1 gives more details on contracting figures. These delays can partly be explained by organisational deficiencies and staff shortages within the Commission and partly by the fact that the general financial assistance rules and procedures are ill-adapted to the complex and specialised requirements of the nuclear sector. As a result much time has been spent in obtaining derogations, for example in cases where open competition was either impractical or not applicable, where projects were to be implemented by EU regulators, or where there was only one possible supplier of technical equipment.

The Commission has now decided to clarify the rules and to set out the cases where direct agreements will be used in future. Further details are provided in Annex II. For on-site assistance, given the limited number of qualified operators in the Member States, the Commission's general policy will be to conclude direct agreement contracts directly with utilities following calls for proposals (for new sites) and to entrust them with tasks which in the past were handled by procurement agents for supplies. These contracts should be for several years in view of the complexity of the on-site assistance which is provided, instead of the system of annual renewals which has been used up to now. Direct agreement contracts will be concluded with the nuclear safety authorities of the Member

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6 The "Twinning Programme Engineering Group" of EU nuclear operators

States and with their technical support organisations (TSO). Finally, the Commission's Joint Research Centre will be used for technical follow up of projects, for dissemination of Tacis/Phare project results and in the area of control of fissile material.

The revised rules can be summarised as follows:

Assistance to be supplied	**Type of contract**
Technical assistance to safety authority	direct agreement
Technical assistance to technical support	
Organisation	direct agreement
Supply of equipment	contract with procurement agents or direct agreement with operator of on site assistance. Direct agreements in cases of urgency or need for specific equipment
Design and studies	restricted tenders
Control of fissile materials	contracts with Joint Research Centre
On going on site assistance	direct agreement
New on site assistance	negotiated procedure

Following a recent decision by the Commission to reform the management of its external assistance programmes, responsibility for nuclear safety has also been clarified. In future full responsibility for external nuclear safety questions will be with DGs Relex, Enlargement and SCR. DG Enlargement will be responsible for the full project cycle in the candidate countries, DG Relex will be responsible for programming for nuclear safety issues in the NIS and the SCR will be responsible for the rest of the project cycle from project identification onwards. Responsibility for nuclear safety questions within the EU currently with DG

ENV will be taken over by DG TREN in order to provide for an appropriate concentration of staff and expertise.

At present funds for nuclear safety in the NIS are provided within the overall allocations for the Tacis programmes. In order to give greater visibility and transparency in this important area the Commission has proposed that from 2001 onwards there should be a single budget line for financial assistance to nuclear safety for the NIS.

These modifications to previous practice should help to streamline project implementation and speed up the delivery of assistance. They are also designed to take account of the comments of the Court of Auditors and of the European Parliament, on which the Commission has already commented extensively elsewhere [7]

5. CONCLUSION

Since 1991 the Commission has made an important contribution to improving nuclear safety levels in Central and Eastern Europe and the NIS. However, much remains to be done. While international and EU efforts cannot substitute for the efforts of the countries themselves, the EU can help its partners as they face these challenges and work to ensure that nuclear safety continues to receive high priority. The Commission will continue to work to build a supportive economic and legal environment in these countries in which operators and regulators can fulfil their different responsibilities.

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[7] OJ C35 of 9/2/1999: Court of Auditors special report No 25/98 together with the Commission's replies. European Parliament Committees: Mr Liikanen Budgetary Committee 16/11/1998, Mr van den Broek Budgetary Control Committee 26/11/1998, CERT 23/2/1999

ANNEX 1

PHARE NUCLEAR SAFETY PROGRAMME (EURO MILLION)			
YEAR	**COMMITMENTS**	**CONTRACTED**	**PAYMENTS**
1990	3.74	3.74	3.74
1991	16.70	16.50	16.50
1992	29.30	28.90	26.90
1993	25.20	25.00	23.60
1994	31.00	28.50	22.50
1995	27.00	23.70	14.17
1996	6.00	5.95	0.50
1997	12.00	7.90	1.90
1998	31.00	3.60	0.19
1999	11.00	-	
TOTAL	**192.94**	**142.59**	**110.00**

TACIS NUCLEAR SAFETY PROGRAMME (million €)			
YEAR	**Committed**	**Contracted**	**Paid**
1991	53.00	52.00	50.00
1992	60.00	58.40	55.00
1993	88.00	83.80	65.33
1994	67.50	63.60	43.37
1995	58.50	51.60	28.43
1996	80.00	76.00	36.48
1997	68.00	47.44	10.97
1998	33.80	11.27	2.66
1999	22.98	00.87	00.35
Total	**531.78**	**444.98**	**292.99**

TACIS NUCLEAR SAFETY PROGRAMME FOR UKRAINE (CHERNOBYL) (million €)				
YEAR	**Committed**	**Contracted**	**Paid**	
1994	25.0	24.2	22.15	
1995	37.5	37.12	7.04	
1996	37.5	36.31	11.832	
Total	**100**	**97.63**	**41.022**	
1998	50.0	50.0	50.0	**CSF**
1999	40.4	40.4	0	**CSF**

ANNEX 2

New rules for contracts in the field of nuclear safety

1. Constraints specific to the nuclear safety sector

The specific constraints and characteristics of the nuclear safety sector are related to:

- popular perception of the scale and sensitivity of safety operations in Member States and partner countries;
- our partners' determination to retain their right to decide for themselves in this highly sensitive sector;
- the importance of ensuring sole responsibility both for European contractors and operators and for the safety authorities of partner countries;
- the limited nature of the market due to the very small number of public and private operators;
- the need to ensure that nuclear safety operations are carried out solely by contractors whose competence in handling such complex technology has been reliably established;
- the importance of not becoming too dependent on these companies by ensuring that a sufficiently wide range of contractors are used, without sacrificing the need for technical competence.

2. Types of contract and related procedures

Contracts in the nuclear safety sector fall into six categories. These categories and related procedures are defined below.

a) Technical assistance contracts with the safety authorities

The purpose of these contracts is to provide national organisations (both governmental and independent) which are responsible for drawing up safety regulations, defining a national institutional framework, granting operating licenses and supervising and inspecting nuclear installations, with the technical assistance they need.

This assistance is provided by the central safety authorities of the Member States. There are nine such regulatory authorities in the Union, all of them either public or non-profit making organisations.

The highly specialised nature of such technical assistance, the fact that it is provided by public-sector non-profit making bodies and the strategic importance of ensuring an adequate number of different sources of assistance, mean that it is vital that contracts be concluded by direct agreement between the parties concerned.

b) Technical assistance contracts with Technical Support Organisations (TSO)

The TSOs are the operational arm of national safety authorities. They consist of a group of experts who undertake technical support missions on the instructions of the safety authorities (for instance, for licensing or on-site inspections).

The TSOs of partner countries receive technical support, as well as help with training, from experts who belong to Member States' TSOs.

There are nine TSOs in the Member States. Some are an integral part of the national safety authorities, others are separate legal non-profit making bodies. The services provided by their experts are charged at a standard rate.

For the reasons cited above (specialised technical skills required, reliance on generally public-sector non-profit-making bodies and adequate diversification), technical assistance contracts with TSOs will be concluded directly between the parties involved.

So as to monitor the fees charged for expert missions by the Member States' TSOs, the Commission will regularly check their declared cost structure and the amounts invoiced by means of audit missions carried out by independent consultants.

c) On-site assistance contracts

On-site assistance is when a Community nuclear operator is asked to support a national operator by providing technical assistance at a given national site.

This assistance may include a broad range of services, in particular training, maintenance, quality assurance, management and implementation of safety equipment.

Continuity of the safety work and the contractor's sole responsibility are the two determining factors in this type of contract.

The choice of Community operator, either alone or as part of a consortium, will largely depend on their technical experience and expertise, according to the kind of installation in question and the type of nuclear reactor used.

In addition, when several nuclear sites in the same country are to be taken in hand, it is important to take care that the site operators do not come to depend exclusively on a single Community operator, and that an adequate variety of sources of technical assistance and sub-contracting is preserved.

There are ten nuclear operators managing sites across the 15 Member States.

Given these facts, on-site assistance contracts should be concluded in the following ways:

- For sites where a Community operator is already working, contracts will be concluded and extended by direct agreement between the partners, and preference will be given to multiannual contracts which are better suited to ensuring continuity of both safety operations and operational responsibility;

- For new sites, where assistance by a Community operator is being considered, contracts will be concluded by negotiated procedure and after publication of a call for expressions of interest in which all European consortia and operators who are interested in providing on-site technical assistance can take part as candidates. In this way, a broad range of sources of technical assistance is guaranteed, while also taking into account the technical constraints on this type of activity and the limited size of the market.

- In order to improve the results obtained and reinforce the concept of sole responsibility, on-site assistance contracts will gradually be changed for every such site into results-based contracts, or 'turnkey' safety contracts, under which sole responsibility for design, management, selection of equipment, implementation and control at any given site would be shared equally by the national operator and the Community operator.

In implementing such procedures, the Commission will draw heavily on the technical expertise of the JRC, especially in drawing up the schedule of conditions for technical assistance contracts, drafting technical specifications for equipment to be provided and work to be carried out, identifying and approving experts to sit on evaluation panels, and technical monitoring and control of these panels' work.

In addition, the Commission will regularly ask independent consultants to conduct controls and audits of costs and expenditure declared under such contracts.

d) Contracts for the purchase of specific equipment

When safety equipment is purchased for specific tasks, outside the context of a turnkey assistance project, these purchases will be made through an invitation to tender conducted by procurement agents with whom technical assistance contracts have already been signed.

JRC experts will validate the technical specifications laid down in the invitation to tender and will check that these specifications are technically neutral.

So as to avoid the contracts in question being reserved for particular companies, the certification process for such equipment will, wherever possible, form part of an invitation to tender.

So as to ensure that tendering for such contracts is an open process, assistance will be provided to those specialised institutions in the partner countries which are responsible for the certification process, through technical assistance contracts with Community institutions.

Notwithstanding, in cases of great urgency or highly specialised equipment, directly concluded contracts may be signed on a case-by-case basis.

e) Contracts for specific project designs and studies

These contracts will be allocated by the conventional invitation-to-tender process (publication of a restricted invitation to tender).

The JRC will approve the invitations' terms of reference and guarantee their technical neutrality.

f) Contracts for control of fissile materials

The purpose of these contracts is to enable countries to set up reliable national control systems for fissile materials, in particular so as to prevent their unauthorised trafficking.

They provide funding for control and accounting of fissile materials, in particular plutonium and enriched uranium which can be used for purposes other than electricity generation.

Within the Union, control of fissile material is undertaken by the Safeguards Directorate with the help of the JRC.

There are only three fissile material control centres in the world which are recognised by the International Atomic Energy Agency (IAEA).

One of these is in the United States, the second is attached to the IAEA in Vienna, and the third is part of the JRC.

Contracts for fissile materials control will therefore continue to be concluded directly with the JRC.