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EUROPEAN ATOMIC ENERGY COMMUNITY

REPORT

On the implementation of the obligations under the

Convention on Nuclear Safety

3rd Review meeting of the Contracting Parties

(presented by the Commission)

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Summary

The European Atomic Energy Community (Euratom) is a regional organisation as referred to in Article 30 (4) of the Convention on Nuclear Safety. It acceded to the Convention on 31 January 2000.

This report is structured according to the *Guidelines regarding national reports under the Convention on Nuclear Safety* established by the Contracting Parties to the Convention (INFCIRC/572/Rev.2).

Section 1, Introduction gives an overview of the relationships of Euratom with its Member States and refers to the new Declaration deposited by Euratom according to Article 30 (4) (iii) of the Convention.

Section 2, Implementation of the Convention, contains the article by article review.

Section 3, Activities aiming at improving safety, refers to a wide range of past, ongoing and future activities carried out by Euratom in the field of the Convention.

1. INTRODUCTION

1.1. **Euratom.** The European Atomic Energy Community (hereinafter Euratom) was created by the Treaty establishing the European Atomic Energy Community signed in Rome on 25 March 1957 (hereinafter Euratom Treaty). Together with the European Community, it constitutes the first pillar of the European Union. The Euratom Treaty is the legal framework for the competencies and activities of Euratom.

1.2. Euratom complies with the qualifications required under Article 30(4) of the Convention for becoming party to the Convention. It acceded to the Convention by a Decision of the Commission of 16 November 1999,¹ on the basis of Article 101 of the Euratom Treaty following a Decision of the Council of 7 December 1998. The instruments of accession were deposited with the Director General of the International Atomic Energy Agency on 31 January 2000, and the Convention thus entered into force for Euratom on 30 April 2000, in accordance with Article 31(2) of the Convention.

The instruments of accession included the Declaration required by Article 30(4)(iii) of the Convention. According to this Declaration, the applicability of the Convention to Euratom was limited by a declared competence in the fields covered by Articles 15 and 16(2) of the Convention (Radiation Protection and, partially, Emergency Preparedness).

1.3. **2nd Review Meeting.** Euratom participated in the 2nd Review Meeting of the Contracting Parties, which took place in Vienna from 15-26 April 2002. This participation was restricted to those fields for which a Community competence had been declared, and this

¹ Commission Decision 1999/819/Euratom of 16 November 1999 concerning the accession to the 1994 Convention on Nuclear Safety by the European Atomic Energy Community (Euratom), OJ L 318, 11.12.1999, p. 20.

fact was duly reflected in the Euratom Report presented by the European Commission at that forum.²

1.4. **Court Decision.** In December 2002, the Court of Justice of the European Communities annulled the third paragraph of the Declaration attached to the Council Decision of 7 December 1998 approving the accession of the European Atomic Energy Community to the Nuclear Safety Convention, in so far as it failed to state that the Community was competent in the fields covered by Articles 7, 14, 16(1) and (3) and 17 to 19 of the Convention.³

1.5. **Euratom Declaration.** A new Declaration under Article 31(2) of the Convention was therefore deposited with the Director General of the IAEA on 11th May 2004. This Declaration replaces the previous one and has the following wording:

“Declaration by the European Atomic Energy Community pursuant to Article 30(4)(iii) of the Nuclear Safety Convention

The following States are at present members of the European Atomic Energy Community: the Kingdom of Belgium, the Czech Republic, the Kingdom of Denmark, the Federal Republic of Germany, the Republic of Estonia, the Hellenic Republic, the Kingdom of Spain, the French Republic, Ireland, the Italian Republic, Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Republic of Austria, the Republic of Poland, the Portuguese Republic, the Republic of Slovenia, the Slovak Republic, the Republic of Finland, the Kingdom of Sweden, the United Kingdom of Great Britain and Northern Ireland.

The Community declares that Articles 1 to 5, Article 7 and Articles 14 to 35 of the Convention apply to it.

The Community possesses competences, shared with the abovementioned Member States, in the fields covered by Article 7 and Articles 14 to 19 of the Convention as provided for by the Treaty establishing the European Atomic Energy Community in Article 2(b) and the relevant Articles of Title II, Chapter 3, entitled "Health and Safety".

1.6. **Present Report.** In view of this new Declaration, the present Report should not be considered as a document merely supplementing or updating the previous one, as it is recommended in the Guidelines. On the contrary, this Report is more comprehensive than the first Report, presented by Euratom in the context of the 2nd Review Meeting. Relevant information already contained in the first Report is therefore repeated in the present Report.

1.7. **The Euratom Treaty.** The signatories of the Euratom Treaty stated, in the Preamble to the Treaty, that they were, in particular:

- anxious to create the conditions of safety necessary to eliminate hazards to the life and health of the public;

² Report on the implementation of the obligations of the Convention on Nuclear Safety (COM(2001) 568 final).

³ Judgement of 10 December 2002 in case C-29/99 Commission v Council, ECJ 2002 Page I-11221.

- desiring to associate other countries with their work and to cooperate with international organisations concerned with the peaceful development of atomic energy.

These statements are in complete accordance with the objectives of the Convention, as set out in Article 1 thereof. In effect, this Article (read with Article 2, “Definitions”) focuses on the Convention’s objectives, which are threefold, that is:

- a high level of nuclear safety;
- protection from ionising radiation of the population and of the environment in the design, siting, construction and operation of nuclear installations and
- prevention of accidents and mitigation of the radiological consequences of such accidents.

2. IMPLEMENTATION OF THE CONVENTION - Article by Article Review

Euratom does not possess nuclear installations as defined in Article 2(1) of the Convention.⁴ Nuclear installations exist in the territory to which the Euratom Treaty applies. The responsibility for the safety of such installations rests with the holders of the relevant licences under the control of their regulatory authorities.

This section addresses those Articles that are relevant for Euratom, as resulting from the Declaration referred to in point 1.5. of this Report.

2.1. Chapter 2(b) of the Convention – Legislation and Regulation

2.1.1. Article 7 – Legislative and regulatory framework

Article 2 of the Euratom Treaty states that in order to perform its task, the Community shall, as provided for in the Treaty, in particular, establish uniform safety standards to protect the health of workers and of the general public and ensure that they are applied.

Title Two, Chapter 3, Health and Safety of the Euratom Treaty, sets out a number of detailed provisions intended to establish, give effect and apply the basic standards mentioned in Article 2(b). A substantial corpus of Euratom legislation has been adopted and updated in the course of the years.

The main instrument is Council Directive 96/29/Euratom laying down basic safety standards for the health protection of the general public and workers against the dangers of ionising radiation, is the central element of this legislation (hereafter “the Basic Safety Standards Directive”). The existing Euratom corpus of legislation is completed by a set of legal instruments of different binding nature, covering a wide range of aspects such as operational protection of workers (including outside workers) and population, natural radioactivity,

⁴ For the purpose of the Convention, ‘nuclear installation’ means for each Contracting Party any land-based civil nuclear power plant under its jurisdiction including such storage, handling and treatment facilities for radioactive material as are on the same site and are directly related to the operation of the nuclear power plant. Such a plant ceases to be a nuclear installation when all nuclear fuel elements have been removed permanently from the reactor core and have been stored safely in accordance with approved procedure, and a decommissioning programme has been agreed to by the regulatory body.

emergency preparedness, radioactive waste management, as well as a number of regulations establishing provisions on the conditions governing imports of agricultural products originating in third countries following the accident at the Chernobyl nuclear power plant, aimed at safeguarding the health of consumers of such products.

The relationship between the legislation adopted by Euratom and the national regulatory systems of the Member States, according to Article 161 of the Treaty, is as follows:

“In order to carry out their task the Council and the Commission shall, in accordance with the provisions of this Treaty, make regulations, issue directives, take decisions, make recommendations or deliver opinions.

A regulation shall have general application. It shall be binding in its entirety and directly applicable in all Member States.

A directive shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods.

A decision shall be binding in its entirety upon those to whom it is addressed.

Recommendations and opinions shall have no binding force.”

While the European legislation provides for a binding framework as far as authorisation, inspection and enforcement are concerned, the responsibility for implementing and enforcing such a European legislation corresponds to the Member States.

Directive 96/29 requires that Member States shall require prior authorisation in particular for the operation and decommissioning of any facility of the nuclear fuel cycle and exploitation and closure of uranium mining.

In order to be authorised, the following tasks shall be ensured:

- Examination and approval of plans for installations and of the proposed siting
- Acceptance into service of the installations
- Examination and approval of plans for the discharge of radioactive effluents.

Directive 96/29 provides for the establishment of a system or systems of inspection to enforce the provisions relating to the operational protection of exposed workers, apprentices and students in connection with practices. It also provides for such a system of inspection as regards health protection of the population.

Under the institutional provisions of the Euratom Treaty, Euratom possesses its own mechanisms to control that the relevant legislation is complied with by all its Member States, including the possibility to accordingly obtain a declaration by the Court of Justice of the European Communities, based in Luxembourg.

Following the accession by Euratom to the Convention on Nuclear Safety, this Convention became a part of the Euratom corpus of binding legislation.

2.3. Chapter 2 (c) of the Convention - General Safety considerations

2.3.1. Article 14 – Assessment and verification of safety

The legal framework for the relevant activities in this area is provided by Articles 33 and 35 of the Euratom Treaty.

Under Article 33 of the Euratom Treaty, “*each Member State shall lay down the appropriate provisions, whether by legislation, regulation or administrative action, to ensure compliance with the basic standards*” (paragraph 1), which cover, according to the case-law, comprehensive and systematic safety assessments in the sense of Article 14(I) of the Convention. To this extent, “*the Commission shall make appropriate recommendations for harmonizing the provisions applicable in this field in the Member States*”.

In line with the implementation of Article 14 (ii) of the Convention, Article 35 of the Euratom Treaty stipulates:

“Each Member State shall establish the facilities necessary to carry out continuous monitoring of the level of radioactivity in the air, water and soil and to ensure compliance with the basic standards.

The Commission shall have the right of access to such facilities; it may verify their operation and efficiency.”

The result of the checks carried out by the Member States under Article 35 are periodically communicated to the Commission under Article 36 of the Treaty. Commission Recommendation 2000/473/Euratom⁵ aims at ensuring uniformity, comparability, transparency and timeliness of the data reported. The Commission regularly publishes summaries of the data reported by Member States. It also exercises its right of access conferred on it by Article 35 of the Treaty.

2.3.2. Article 15 – Radiation protection

Article 2(b) of the Euratom Treaty requires the European Atomic Energy Community to establish uniform safety standards to protect the health of the workers and of the general public and to ensure that they are applied. Article 218 of the Treaty underlines the importance for Euratom of the basic standards, as these had to be determined within one year of the entry into force of the Treaty. They were first established in 1959, and the current safety standards are set out in Council Directive 96/29/Euratom of 13.5.1996 (Basic Safety Standards).

The Directive is based on the 1990 Recommendation of the International Commission on Radiological Protection (ICRP) and is consistent with the International Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radiation Sources sponsored and issued by the International Atomic Energy Agency and jointly sponsored by other five International Organisations with competence in radiation protection.

The Basic Safety Standards Directive is structured in ten Titles as follows:

Title I	Definitions
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⁵ OJ L 191 of 17.07.2000, p. 37.

Title II	Scope
Title III	Reporting and authorisation of practices
Title IV	Justification, optimisation and dose limitation for practices
Title V	Estimation of effective dose
Title VI	Fundamental principles governing operation protection of exposed workers, apprentices and students for practices
Title VII	Significant increase in exposure due to natural radiation sources
Title VIII	Implementation of radiation protection for the population in normal circumstances
Title IX	Intervention
Title X	Final provisions

2.3.2.1. Optimisation (ALARA) Principle

The general principles of radiation protection: justification, optimisation and dose limitation are mandatory under Article 6. In particular, as regards optimisation, Article 6(3)(a) reads:

“Each Member States shall ensure that, in the context of optimisation, all exposures shall be kept as low as reasonably achievable, economic and social factors being taken into account.”

2.3.2.2. Dose Limits

As regards dose limitation, the Basic Safety Standards Directive sets out dose limits for exposed workers, for apprentices and students and for members of the public. The relevant Articles are follows:

“Article 9 – Dose limits for exposed workers

1. *The limit on effective dose for exposed workers shall be 100 millisieverts (‘mSv’) in a consecutive five-year period, subject to a maximum effective dose of 50 mSv in any single year. Member States may decide an annual amount.*
2. *Without prejudice to paragraph 1:*
 - (a) *the limit on equivalent dose for the lens of the eye shall be 150 mSv in a year;*
 - (b) *the limit on equivalent dose for the skin shall be 500 mSv in a year. This limit shall apply to the dose average over any area of 1 cm², regardless of the area exposed;*

(c) the limit on equivalent dose for the hands, forearms, feet and ankles shall be 500 mSv in a year.”

“Article 11 –Dose limits for apprentices and students

- 1. The dose limits for apprentices aged 18 years or over and students aged 18 years or over who, in the course of their studies, are obliged to use sources shall be the same as the dose limits for exposed workers laid down in Article 9.*
- 2. The limit for effective dose for apprentices aged between 16 and 18 years and for students aged between 16 and 18 years who, in the course of their studies, are obliged to use sources shall be 6 mSv per year.*

Without prejudice to this dose limit:

- (a) the limit on equivalent dose for the lens of the eye shall be 50 mSv in a year;*
 - (b) the limit on equivalent dose for the skin shall be 150 mSv in a year. This limit shall apply to the dose average over any area of 1 cm², regardless of the area exposed;*
 - (c) the limit on equivalent dose for the hands, forearms, feet and ankles shall be 150 mSv in a year.*
- 3. The dose limits for apprentices and students who are not subject to the provisions of paragraphs 1 and 2 shall be the same as the dose limits for members of the public specified in Article 13.”*

“Article 13 – Dose limits for members of the public

- 1. Without prejudice to Article 14, the dose limits for members of the public shall be as laid down in paragraphs 2 and 3.*
- 2. The limit for effective dose shall be 1 mSv in a year. However, in special circumstances, a higher effective dose may be authorised in a single year, provided that the average over five consecutive years does not exceed 1 mSv per year.*
- 3. Without prejudice to paragraph 2:*
 - (a) the limit on equivalent dose for the lens of the eye shall be 15 mSv in a year;*
 - (b) the limit on equivalent dose for the skin shall be 50 mSv in a year averaged over any 1 cm² area of skin, regardless of the area exposed.”*

2.3.2.3. Operational protection of the population.

As regards practices involving a risk from ionising radiation for the population, Article 43 and Article 44 of the Basic Safety Standards Directive require Member States to apply the fundamental principles governing operational protection of the population. In particular, Article 44 states that:

“Operational protection of the population means all arrangements and surveys for detecting and eliminating the factors which, in the course of any operation involving

exposure to ionising radiation, are liable to create a risk of exposure for the population which cannot be disregarded from the radiation protection point of view. Such protection shall include the following tasks:

(a) examination and approval of plans for installations involving an exposure risk, and of the proposed siting of such installations within the territory concerned, from the point of view of radiation protection;

(b) acceptance into service of such new installations subject to adequate protection being provided against any exposure or radioactive contamination liable to extend beyond the perimeter, taking into account, if relevant, demographic, meteorological, geological, hydrological and ecological conditions;

(c) examination and approval of plans for the discharge of radioactive effluents.

These tasks shall be carried out in accordance with rules laid down by the competent authorities on the basis of the extent of the exposure risk involved”.

Article 49 of the Basic Safety Standards Directive requires Member States to consider the possibility of radiological emergencies from practices subject to the Directive, and to assess the corresponding potential exposures.

Estimates and records of population doses in relation to nuclear installations as defined by the Convention are required by Article 45 as follows:

“The competent authorities shall:

(a) ensure that dose estimates from practices subject to prior authorisation are made as realistic as possible for the population as a whole and for reference groups of the population in all places where such groups may occur;

(b) decide on the frequency of assessments and take all necessary steps to identify the reference groups of the population, taking into account the effective pathways of transmission of the radioactive substances;

(c) ensure, taking into account the radiological risks, that the estimates of the population doses include:

- assessment of the doses due to external radiation, indicating, where appropriate, the quality of the radiation in question,*
- assessment of the intake of radionuclides, indicating the nature of the radionuclides and, where necessary, their physical and chemical states, and determination of the activity and concentrations of these radionuclides,*
- assessment of the doses that the reference groups of the population are liable to receive and specification of the characteristics of these groups.*

(d) require records to be kept relating to measurements of external exposure, estimates of intakes of radionuclides and radioactive contamination as well as the results of the assessment of the doses received by reference groups and by the population.”

2.3.3. Article 16 – Emergency preparedness

Three main texts of European legislation are specific to emergency preparedness.

2.3.3.1 **Title IX of Council Directive 96/29/Euratom.** Article 50, on “Intervention preparation”, provides as follows:

“1. Each Member State shall ensure that account is taken of the fact that radiological emergencies may occur in connection with practices on or outside its territory and affect it.

2. Each Member State shall ensure that appropriate intervention plans, taking account of the general principles of radiation protection for intervention referred to in Article 48 (2) and of the appropriate intervention levels established by the competent authorities, are drawn up at national or local level, including within installations, in order to deal with various types of radiological emergency and that such plans are tested to an appropriate extent at regular intervals.

3. Each Member State shall ensure, where appropriate, that provision is made for the creation and appropriate training of special teams for technical, medical and health intervention.

4. Each Member State shall seek to cooperate with other Member States or non-Member States in relation to possible radiological emergencies at installations on its own territory which may affect other Member States or non-Member States, in order to facilitate the organization of radiological protection in these States.”

2.3.3.2. **Council Decision 87/600/Euratom** sets out arrangements for the early exchange of information between competent authorities in the event of a radiological emergency (ECURIE). These arrangements “apply to the notification and provisions of information whenever a Member State decides to take measures of a wide-spread nature in order to protect the general public in case of a radiological emergency” (Article 1 of the Decision).

Article 2(i) of this Decision sets out the actions to be taken by the Member State that initially decides to take measures as referred to in Article 1 as follows:

(a) forthwith notify the Commission and those Member States which are, or are likely to be, affected of such measures and the reasons for taking them;

(b) promptly provide the Commission and those Member States which are, or are likely to be, affected with available information relevant to minimising the foreseen radiological consequences, if any, in those States.

Article 2(2) encourages Member States to notify their “intention to take without delay measures as referred to in Article 1”.

The Decision also specifies the nature of the information that shall be provided and requires that the initial information is supplemented at appropriate intervals.

The Commission forwards the information it receives from a Member State to all the Member States that have not already been directly informed by the initiating Member States.

The Decision applies to the Member States of Euratom. It also applies to Switzerland, Bulgaria and Romania, following an agreement between Euratom and these countries.

The Decision is compatible with the Convention on Early Notification of a Nuclear Accident, as demonstrated by several exercises carried out in co-operation with the IAEA and the States participating in such exercises.

2.3.3.3. **Council Directive 89/618/Euratom** deals with informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency.

The Directive specifies two types of information that has to be given to the members of the public:

- preventive information to be given to the population groups for which Member States have drawn up intervention plans in the event of a radiological emergency;
- information in the event of a radiological emergency, to be given to the population groups actually affected in the event of a radiological emergency and for which specific protection measures are taken.

2.4. Chapter 2(d) of the Convention – Safety of Installations

2.4.1. Article 17 – Siting

Article 37 reads as follows:

“Each Member State shall provide the Commission with such general data relating to any plan for the disposal of radioactive waste in whatever form as will make it possible to determine whether the implementation of such plan is liable to result in the radioactive contamination of the water, soil or airspace of another Member State.

The Commission shall deliver its opinion within six months, after consulting the group of experts referred to in Article 31.”

The Commission opinion pursuant to Article 37 of the Euratom Treaty must, in order to be rendered fully effective, be brought to the notice of the State delivering the authorisation, before the issue of such authorisation. The opinions delivered by the Commission under Article 37 are published in the Official Journal of the European Communities.

2.4.2. Article 18 – Design and construction / Article 19 - Operation

The legal framework for the relevant activities in this area is provided, by Articles 33 and 35 of the Euratom Treaty, like in the case of Article 14 of the Convention. Comments given in this context are also relevant for Articles 18 and 19.

3. EURATOM ACTIVITIES AIMING AT IMPROVING SAFETY

3.1. Introductory remarks.

Euratom has been active in the field of nuclear safety for over 25 years, through the action of its institutions, in particular the Commission and the Council, at different levels.

The Council Resolution of 22 July 1975 on the technological problems of nuclear safety⁶ considered that the technological problems relating to nuclear safety, in view of their environmental and health implications, called for appropriate action at Community level which would take into account the prerogatives and responsibilities assumed by national authorities. It recognised that it was the Commission's responsibility to act as a catalyst in initiatives taken at international level with regard to nuclear safety. As a result of this resolution, the Commission set up several expert groups dealing with nuclear safety matters. These groups, in which representatives of the safety authorities of the Member States participate, have actively contributed to the harmonisation of nuclear safety practices. The Council Resolution of 18 June 1992 on the technological problems of nuclear safety,⁷ further requested the Member States and the Commission to adopt as the fundamental and priority objective of Community cooperation in the nuclear field, in particular with the other European countries, especially those of Central and Eastern Europe and the Republics of the former Soviet Union, that of bringing their nuclear installations up to safety levels equivalent to those in practice in the Community and to facilitate the implementation of the safety criteria and requirements already recognized throughout the Community. Following this Resolution, participation in the different expert groups was extended to representatives of the Central and Eastern European Countries (CEECs) and the Republics of the former Soviet Union (NIS). The European Commission has worked with the support of expert groups for more than 30 years and has launched many studies and initiatives in the field of the nuclear safety, in particular, the Nuclear Regulators' Working Group (NRWG), which includes representatives of nuclear regulatory authorities from EU Member States and Candidate States of Central and Eastern Europe, and the Reactor Safety Working Group (RSWG), which included all the EU regulatory bodies and industry, was discontinued in 1998.

Their approach to "harmonisation" consists of a comparison of national practices, identification of common features, and analysis of the safety relevance of differences. Common technical opinions are expressed on certain safety issues, and, while these are not safety "standards", they are expected to promote good practice. On-going activities include safety aspects of ageing, applications of risk-based approaches and innovative technologies. These activities have been widely documented and published either as technical publications or as Communications to the Council and the European Parliament.

The CONCERT (CONCeration on European Regulatory Tasks), formed in 1992, is a unique forum that brings together EU, CEEC and NIS nuclear regulators to share experience and to further the progress of assistance and co-operation activities in general. Among its other activities, discussions within this group significantly contribute to achieving the objectives of the Nuclear Safety Convention by forming a common regulatory view on nuclear safety

⁶ OJ No C 185 of 14 August 1975, p. 1.

⁷ OJ No C 172 of 18 June 1992, p. 2.

issues and increasing a safety culture. At present, the issue of “Regulatory Approach to Safety Upgrading of Nuclear Power Plants built to Earlier Safety Standards” is under discussion in the CONCERT Group meetings.

Similarly, the Joint Research Centre (JRC) has been a major player for many years, as far as research is concerned, in order to improve the safety of nuclear installations. Its technical expertise with regard to fuel cycle safety and reactor safety is undeniable and internationally recognised. The JRC also assists the Commission in the evaluation of tenders and the results of projects conducted in the context of the PHARE⁸ and TACIS⁹ programmes.

The Commission is also supporting important collaborative safety research in the Member States through the Euratom framework programme for nuclear research and training activities. One goal of this research is to create an European Research Area to better coordinate and use the research capacities in Europe to prevent the effects of reduced research funding.

In a Decision dated 21 March 1994¹⁰ the Council authorised the Commission to make borrowings, the proceeds of which would be assigned, in the form of loans, to the funding of projects to increase the safety and efficiency of the nuclear facilities in certain CEEC and NIS countries.

The Cologne European Council in June 1999 asked the Commission to ensure that high safety standards are applied in Central and Eastern Europe. Following on from this request, the safety of nuclear installations in the candidate countries was evaluated by the Commission and the Council in 2001, making it possible to arrive at a European perspective with regard to nuclear safety agreed by the then fifteen Member States and the Commission.

The Laeken European Council in December 2001 marked the transition from reflection conducted in the perspective of enlargement to that of a global political vision at the level of the enlarged EU. One of the conclusions of this meeting was that *"the European Council undertakes to maintain a high level of nuclear safety in the Union. It stresses the need to monitor the security and safety of nuclear power stations. It calls for regular reports from Member States' atomic energy experts, who will maintain close contacts with the Commission"*.

The follow-up to the Cologne Council conclusions has been ensured in the framework of the European Community including that of the European Atomic Energy Community (Euratom).

⁸ The Phare programme is one of the three pre-accession instruments financed by the European Communities to assist the applicant countries of central Europe in their preparations for joining the European Union.

⁹ The Tacis programme encourages democratisation, the strengthening of the rule of law and the transition to a market economy in the New Independent States (NIS), created as a result of the break-up of the Soviet Union. The states are as follows: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

¹⁰ Council Decision of 21 March 1994 amending Decision 77/270/Euratom, to authorize the Commission to contract Euratom borrowings in order to contribute to the financing required for improving the degree of safety and efficiency of nuclear power stations in certain non- member countries (Official Journal L 084 , 29/03/1994 p. 41

3.2. Actions taken by the European Community in the area of nuclear safety in Central and Eastern Europe and in the Newly Independent States (NIS).

In the early nineties the EU decided to take a prominent role in the international efforts to help Central and Eastern European Countries and the New Independent States to improve their level of nuclear safety. The two major instruments put in place by the EC to deliver assistance to these countries have been the Phare and Tacis.

The Phare and Tacis have been developed to pursue the Community's nuclear safety policy objectives. The strategy of the Commission have been set out in a series of Commission Communications and other types of documents, including the Agenda 2002 – for a stronger and wider Union (July 1997). In the year 2000 the Commission summarised its strategy for support to nuclear safety in the beneficiary countries in its Communication of 6 September 2000, COM (2000) 493 final (“Commission support to nuclear safety in the Newly Independent States and Central and Eastern Europe”).

3.2.1. Communication from the Commission to the Council and the European Parliament of 6 September 2000. Commission support to nuclear safety in the Newly Independent States and in Central and Eastern Europe. Past actions were based on two main objectives fully in line with the policy of the international community: (a) In the short term, to improve operational safety; to make technical improvements to plants based on safety assessments and to enhance regulatory regimes; (b) In the long 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.

The instruments used included:

- The Phare (for Central and Eastern Europe) and Tacis (for the NIS) Community programmes to provide technical assistance as well as a number of other programmes;
- Euratom loans;
- On an international level, the EU contribution to the Nuclear Safety Account administered by the European Bank for Reconstruction and Development (EBRD);
- Pre-accession funds to support nuclear safety in the candidate countries. Priority is given to this as part of EU enlargement.

Since 2001 the Phare nuclear safety programme underwent some re-orientation. The focus of the Phare nuclear safety programme is generally directed towards supporting the institution-building tasks of beneficiary countries to ensure an independent and efficient nuclear safety authority.

Over more that a decade, since 1990, through the Phare nuclear safety programme the Commission has assisted countries of Central and Eastern European Countries with around € 230 million (this figure does not include the support for the decommissioning of certain

reactors). More than 300 projects have been funded covering a wide range of issues related to nuclear safety.

The Phare nuclear safety programme has undoubtedly contributed to efforts to improve nuclear safety in Central and Eastern European Countries. In particular the assistance provided have helped to strengthen independent regulatory authorities in the region, to improve the level of design and operational safety, including provision of equipment, and to improve the situation of radioactive waste management.

3.2.2. Nuclear Safety Indicative Programme 2004-2006.

Adopted by the European Commission on 7 November 2003, it is based upon the Nuclear Safety Strategy Paper 2002-2006, which provided the strategic framework within which EC assistance is to be provided for the period 2002-2006. In order to give a global view of our nuclear safety and related cooperation in the region, the IP 2004-2006 covers also the multilateral funds participated in by the European Union, such as the Chernobyl Shelter Fund (CSF), the Northern Dimension Environmental Partnership (NDEP) Fund and the potential fund for decommissioning the Medzamor NPP in Armenia (if an agreement is reached with the Armenian Government on a date to shut down the plant). In addition, a chapter covering our support for the International Science and Technology Centre (ISTC) in Moscow and the Science and Technology Centre in Ukraine (STCU), two Centres devoted to non-proliferation of expertise in the former Soviet Union, is also included.

The Strategy Paper 2002-2006 focuses mainly on Russia and Ukraine, which as the main inheritors of Soviet nuclear reactor technology present the biggest concentration of problems related to nuclear safety and security. While maintaining this emphasis on assistance to Russia and Ukraine, the Indicative Programme 2004-2006 slightly broadens the scope of our action by extending the assistance to Armenia and Kazakhstan, and to a limited extent to Georgia and Belarus.

The total indicative budget envisaged for the period 2004-2006 is € 429 million.

3.2.3. Nuclear Safety in the Newly Independent States (NIS)

The new **Tacis programme**,¹¹ 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;
- The development and implementation of strategies for dealing with spent fuel, decommissioning and managing nuclear waste;
- Contribution to international initiatives such as the G7/EU initiative on the closure of Chernobyl.

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

¹¹ Council Regulation (EC, Euratom) No 99/2000 of 29 December 1999 concerning the provision of assistance to the partner states in Eastern Europe and Central Asia, Official Journal L 12 of 18.01.2000

Future EU assistance should aim 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;
- For on-site assistance, linking NIS nuclear power plants with EU operators;
- Promote some projects in support of nuclear safety;
- Support regulatory type work, in particular, safety analyses which are compatible with the remaining lifetime of the reactors;
- Improve spent fuel and radioactive waste management and encourage the timely preparation of decommissioning;
- Help to improve the corporate structures of nuclear utilities and industrial nuclear operators in order to bring about a financially sound electricity and nuclear sector;
- Provide Euratom loans in order to improve nuclear safety, especially reactors;
- Promote and develop safeguards projects with three major objectives: training of inspectors and plant operators, accountability of nuclear material and implementation of measures at plant level to prevent illicit trafficking.

All measures taken will be subject to technical control and will be technically monitored by the Commission.

3.2.4. SURE Programme. Council Decision 1999/25/Euratom of 14 December 1998 adopting a multiannual programme (1998 to 2002) of actions in the nuclear sector relating to the safe transport of radioactive materials and to safeguards and industrial cooperation to promote certain aspects of the safety of nuclear installations in the countries currently participating in the TACIS programme.¹²

The SURE programme's main three objectives were:

- to review safety relating to the transport of radioactive materials in the Community;
- to help the TACIS countries to improve their systems of safeguards;
- to promote industrial cooperation and cooperation between regulatory bodies and the TACIS countries to help those countries achieve high safety standards.

¹² Official Journal L 7, 13.01.1999

3.3. Euratom 6th Framework Programme on research and training.

According to Article 7 of the Euratom Treaty, the Euratom Community determines and carries out research and training programmes on issues relating to the Convention.

The Euratom 6th Framework Programme on research and training (FP6: 2002-2006)¹³ is currently being implemented.¹⁴ It is composed of the following main activities of nuclear research:

- Euratom Specific programme for research and training on nuclear energy, implemented through indirect actions and
- Specific programme for research and training implemented by direct actions and carried out by the Joint Research Centre (JRC).

Co-ordination is assured with JRC programme on ‘nuclear safety and safeguards’, the main areas of research activity of JRC being Nuclear safety and security and Measurements and reference materials.

Annex I to Council Decision 2002/668/Euratom establishing FP6 ("*Scientific and technological objectives and broad lines of the activities*") identifies as priority thematic areas of research the following issues related to the scope of application of the Convention:

a) Management of radioactive waste : Research to contribute to a broadly agreed approach to waste management and disposal; exploration of the technical and economic potential of concepts able to make better use of fissile material and generate less waste. Research Priorities are *Research on geological disposal; Partitioning and transmutation and other concepts to produce less waste in nuclear energy generation*

b) Radiation protection : Underpin and contribute to maintaining and improving the high standards of radiation protection, in particular resolve uncertainties from exposures to low and protracted doses. Research priorities are *Quantification of risks associated with low and protracted exposure; Medical exposure and natural sources of radiation; Protection of the environment and radioecology; Risk and emergency management; Protection of the workplace.*

c) Other activities in the field of nuclear technologies and safety: Support EU policies in the fields of health, energy and the environment and ensure that European capability is maintained in relevant fields not covered by the thematic priorities. Research Priorities are *Innovative concepts; Education and training; Safety of existing nuclear installations*

¹³ Council Decision 2002/668/Euratom of 3 June 2002 concerning the sixth framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities, also contributing to the creation of the European Research Area (2002 to 2006) (2002/668/Euratom), OJ L 232 of 29.8.2002; Council Decision 2002/837/Euratom of 30 September 2002 adopting a specific programme (Euratom) for research and training on nuclear energy (2002–2006), OJ L 294 of 29.10.2002; Council Regulation No 2322/2002 (EURATOM) of 5 November 2002 concerning the rules for the participation of undertakings, research centres and universities in the implementation of the sixth framework programme of the European Atomic Energy Community (2002 to 2006), OJ L 355 of 30.12.2002.

¹⁴ The results of research activities carried out under the 5th Framework programme are available at the following web-site: <http://www.cordis.lu/fp5-euratom/src/effects-health/index.htm>

This research is performed through support to collaborative research between research institutions in the Member States and those States associated¹⁵ to the Euratom research programme and through direct research activities performed at the JRC. The collaborative research projects are selected in a competitive way based on Calls for Proposals (and exceptionally by calls for tenders) and peer review, i.e. evaluation with the help of external, independent experts. To implement the various activities, different instruments, project types and funding schemes will be applied.

The JRC's activities aim at supporting related Community policies and specific Treaty obligations. Focussing its activities in areas where Community involvement is appropriate, the JRC operates where its European identity provides added value and where its action is justified by the cross-border aspects of nuclear safety and security or by public concern.

3.4. New legislative framework on Nuclear Safety

The commitment of Euratom and its Member States to a high level of nuclear safety and to the safe management of spent fuel and radioactive waste is reflected, in particular, in the existing Community legislative framework adopted under the Euratom Treaty as well as in the relevant Council Resolutions and conclusions, and in the conclusions of the 2001 Laeken European Council.

Further to this legislative framework, and in execution of the obligations and general principles laid down in the Nuclear Safety Convention, legislative initiatives are ongoing to back up the national systems by providing a common legal reference framework at Euratom level, setting out basic obligations and general principles on the safety of nuclear installations.

In the framework of the discussions on recent Commission proposals for Council Directives (Euratom) setting out the basic obligations and general principles on the safety of nuclear installations and on the management of spent nuclear fuel and radioactive waste,¹⁶ the Council of the European Union, at its 2593rd meeting held in Luxembourg on 28 June 2004, adopted clear Conclusions on nuclear safety and on the safety of the management of spent nuclear fuel and radioactive waste, where, among other, the following statements were made:

“(the Council) urges Member States together with the Commission:

- to avail themselves in particular of the possibilities offered by the review meetings under the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management in 2005 and 2006 respectively,
- to assess the results achieved under these Conventions, including at previous Conferences of the Parties,
- to take stock of the outcome of the work conducted by national nuclear regulatory authorities in multinational fora, including in the WENRA framework,

¹⁵ Switzerland, Bulgaria and Romania are associated to the Euratom research framework programme with the same rights and obligations as the EU Member States.

¹⁶ Proposal for a Council Directive setting out basic obligations and general principles on the safety of nuclear installations (COM(2003) 32 final).

and on that basis

- to engage in a wide ranging consultation process facilitating the choice of instrument(s), in the framework of the Euratom Treaty, that can contribute more effectively to achieving nuclear safety and the safe management of spent fuel and radioactive waste, without excluding any instrument and in line with the principles of Better law making.”