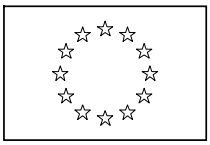

COMMISSION OF THE EUROPEAN COMMUNITIES

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REPORT

On the implementation of the obligations

of the

Convention on Nuclear Safety

European Atomic Energy Community

(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, following the entry into force of the Convention for all its fifteen Member States.

The report is structured according to the guidelines established by the Contracting Parties to the Convention (INFCIRC/572/Rev.1).

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

Section 2, Implementation of the Convention, contains the article by article review, limited in compliance with the above-mentioned Declaration.

Section 3, Planned activities to improve safety, refers to the current Euratom Framework Programme for research and training activities.

1. INTRODUCTION

1.1. 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. Euratom, the European Coal and Steel Community and the European Community, formerly European Economic Community, are referred to collectively as the European Communities.

Since the adoption, in 1992 in Maastricht, of the Treaty on European Union, establishing a European Union founded on the European Communities, the term European Union is widely utilised in a general sense.

The Treaty establishing the European Atomic Energy Community, the Euratom Treaty, was amended several times since its first adoption, particularly to take account of the increased number of Member States, and on procedural matters. The latest modifications in force were introduced by the Treaty of Amsterdam signed on 2 October 1997.

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] according to Article 101 of the Treaty following a Decision of the Council of 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.

This is the first report of Euratom on the measures it has taken to implement each of the obligations of the Convention, as required by Article 5 of the Convention. It is

[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.

complementary to the reports submitted by the Member States of Euratom, which are Contracting Parties of the Convention.

1.3. Euratom does not possess nuclear installations as defined in Article 2(1) of the Convention[2]. Nuclear installations exist in the territory to which the Euratom Treaty applies. The responsibility for the safety of such installations belongs to the Member States on which territories the nuclear installation is located.

Euratom responsibilities will appear from the details given below; they are centred around protection of the health of workers and the general public against the dangers arising from ionising radiation.

1.4 The instruments of accession included the declaration required by Article 30(4)(iii) of the Convention. The text of the declaration is as follows:

"Declaration by the European Atomic Energy Community according to the provisions of Article 30(4)(iii) of the Nuclear Safety Convention

The following states are presently members of the European Atomic Energy Community: the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of Germany, the Hellenic Republic, the Kingdom of Spain, the French Republic, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Republic of Austria, the Portuguese Republic, the Republic of Finland, the Kingdom of Sweden, the United Kingdom of Great Britain and Northern Ireland.

The Community declares that Articles 15 and 16(2) of the Convention apply to it. Articles 1 to 5, Article 7(1), Article 14(ii) and Articles 20 to 35 also apply to it only in so far as the fields covered by Articles 15 and 16(2) are concerned.

The Community possesses competence, shared with the above-mentioned Member States, in the fields covered by Articles 15 and 16(2) 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'.[3]*"*

1.5. The signatories of the Euratom Treaty stated, in the preamble to the Treaty, that they are, amongst other things,:

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

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

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2 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.

3 This paragraph is presently the subject of proceedings in the European Court of Justice which may result in the deposit of a new Declaration to replace the existing one. O.J. C 100, 10.04.1999, p. 9

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.

1.6. Article 2 of the Euratom Treaty states that in order to perform its task, the Community shall, as provided for in the Treaty, and amongst other things:

- *Promote research and ensure the dissemination of technical information;*

- *Establish uniform safety standards to protect the health of workers and of the general public and ensure that they are applied;*

- *Establish with other countries and international organisations such relations as will foster progress in the peaceful uses of nuclear energy*[4].

Title Two, Chapter III, 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). It remains unchanged since the Euratom Treaty came into force in 1958.

Article 37 of the Treaty confers on Euratom a direct responsibility as regards protection against the dangers of ionising radiation from the disposal of radioactive waste. It 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.

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[4] Articles 101 to 103 of the Treaty confer authority upon Euratom to negotiate and to conclude agreements, or contracts with a third State, an international organisation or a national of a third State.

A substantial corpus of Euratom legislation relevant to radiation protection has been adopted and updated in the course of the years.

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[5], is the central element of this legislation (hereafter "the Basic Safety Standards Directive"). The existing Euratom legislation is completed by a set of European Community 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 States 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."

Article 164 of the Euratom Treaty states that enforcement of regulations, directives and decisions shall be governed by the rules of civil procedure in force in the State in the territory of which it is carried out.

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[5] Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the health protection of the general public and workers against the dangers of ionising radiation, O.J. L 159, 29.6.1996, p. 1.

2. IMPLEMENTATION OF THE CONVENTION

Article by Article Review

In compliance with the declaration referred to above, this section deals with Articles 15 and 16(2) of the Convention and, insofar as the fields covered by those Articles are concerned, with Articles 1 to 5, Article 7(1), Article 14(ii) and Article 20 to 35 in relation to Chapter III of the Euratom Treaty and derived Community law.

2.1. Article 7 of the Convention – LEGISLATION AND REGULATORY ISSUES

The Euratom Treaty itself, especially in its Title Two, Chapter III, Health and Safety, sets out obligations binding Euratom and its Institutions as well as the Member States. Articles 31 and 32 of the Treaty set out the procedure by which derived legislation relevant to the radiation protection basic standards is established.

The procedure involves three of the five Euratom institutions[6] namely the European Parliament, the Council and the Commission. It also involves an Economic and Social Committee of advisory status. The Court of Justice ensures that in the interpretation and application of the Treaty the law is observed.

The main features of the Euratom legal system relevant to radiation protection are summarised in section 1 of the present report.

2.2. Article 15 of the Convention – RADIATION PROTECTION

2.2.1. 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; and it requires that they shall 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 the Basic Safety Standards Directive[7].

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.

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6 The Euratom institutions, European Parliament, Council, Commission, Court of Justice and Court of Auditors, are common to the European Coal and Steel Community, to the European Community and to the European Union.

7 See footnote 5

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

Title I	Definitions
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

2.2.2. 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."

2.2.3. 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 cm^2, 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 cm^2, 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 cm^2 area of skin, regardless of the area exposed.

2.2.4. Conditions for the release of radioactive materials

Article 37 of the Euratom Treaty, as mentioned in the introduction of this Report, is relevant to the release of radioactive materials from the disposal of radioactive waste.

Article 4(1)(a) of the Basic Safety Standards Directive requires, amongst other things, that "operation and decommissioning of any facility of the nuclear fuel cycle" be subject to prior authorisation.

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.

2.2.5. Regulatory control activities

Verifications with respect to radiation protection are carried out by the Member States in compliance with Article 35 of the Treaty that requires the establishment of facilities "*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/Euratom[8] 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.

Article 46 of the Basic Safety Standards Directive provides as follows:

As regards health protection of the population each Member State shall establish a system of inspection to enforce the provisions introduced in compliance with this Directive and to initiate surveillance in the area of radiation protection.

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[8] Commission Recommendation 2000/473/Euratom of 8 June 2000 on the application of Article 36 of the Euratom Treaty concerning the monitoring of the levels of radioactivity in the environment for the purpose of assessing the exposure of the population as a whole. O.J. L 191, 27.07.2000, p. 37

2.3. Article 16 of the Convention – EMERGENCY PREPAREDNESS

Two texts of European legislation are specific to information of competent authorities and of members of the public.

2.3.1 Council Decision 87/600/Euratom[9] sets out arrangements for the early exchange of information between competent authorities in the event of a radiological emergency. 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 following an agreement between Euratom and Switzerland[10].

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

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9 Council Decision 87/600/Euratom of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency, O.J. L 371, 30.12.1987, p. 76.

10 Concluded by exchange of letters in June 1995, OJ. C 335, 13.12.1995, p. 4.

2.3.2. Council Directive 89/618/Euratom[11] 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.

[11] Council Directive 89/618/Euratom of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency, OJ. L 357, 7.12.1989, p. 31.

3. PLANNED ACTIVITIES TO IMPROVE SAFETY

Pursuant to Article 7 of the Treaty, Euratom implements research and training programmes on matters related to Articles 15 and 16(2) of the Convention.

The 5th Euratom Framework Programme for research and training activities[12] (1998-2002) is being implemented.

The programme includes indirect actions, executed by research and development institutions in the Member States, and direct actions carried out by the Joint Research Centre of the Commission.

Those indirect actions are mainly encompassed within the key action 'Nuclear Fission', and within the generic research activities on "Radiological Sciences".

The key action 'Nuclear Fission' is organised under various areas: 'Operational safety of existing installations', 'Safety of the fuel cycle', 'Safety and efficiency of future systems' and 'Radiation protection'. The objectives are: (i) to ensure the protection of workers and the public from radiation and the safe and effective management and final disposal of radioactive waste, (ii) to explore more innovative concepts that are sustainable and have potential longer term economic, safety, health and environmental benefits and (iii) to contribute towards maintaining a high level of expertise and competence on nuclear technology and safety.

The objectives of the generic research activities on radiological science are to consolidate and advance knowledge and competence essential for the safe use of nuclear fission and other industrial and medical uses of ionising radiation, including the management of natural sources of radiation. The research will also contribute to the harmonised implementation of the Basic Safety Standards in the area of radiation protection and to their further consolidation.

As for direct actions, in accordance with its task of providing scientific and tehcnical support for EU policies, the JRC focuses its activities on the following fields: waste treatment and storage; radiation protection; reactor safety; control of fissile materials and support to non-profileration; radionuclide metrology.

[12] Council Decision of 25 January 1999 adopting a research and training programme (Euratom) in the field of nuclear energy (1998 to 2002) O.J. L 64, 12.3.1999, p. 142.