



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 10.07.1995
COM(95)328 final

REPORT ON THE APPLICATION OF ARTICLE 37 OF THE EURATOM TREATY,

JULY 1990 – JUNE 1994

1 INTRODUCTION

In its resolution of 20 November 1980 on the siting of nuclear power stations in frontier regions¹, the European Parliament called on the Commission to prepare an annual report on the application of Article 37 of the Euratom Treaty.

This article imposes the following obligation on Member States concerning the disposal of radioactive waste from nuclear installations:

Article 37

"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 to make it possible to determine whether the implementation of such a 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 number of disposal plans submitted to the Commission each year fell from 8 in 1980 to an average of 5 over the period 1983-1987, with a further fall to 3 only in 1988 and 1989. Owing to this decrease and the systematic publication in the Official Journal since 1986 of the opinions delivered by the Commission under Article 37, the interval at which reports have been submitted to Parliament has changed.

The first report of the series², covering the period from 1959 to the summer of 1982, described in detail the procedure for issuing the Commission's opinions, the main points considered when examining a disposal plan and the experience thereby acquired. Subsequent reports³ have been confined to a brief outline of the procedure and a description of the projects examined during the reporting period.

In view of the long period that has elapsed since the publication of the first report (submitted in 1982) and bearing in mind the changes introduced by the Commission Recommendation of 7 December 1990⁴, the present report describes the procedure in greater detail.

¹ OJ C 327/34 of 5 December 1980

² COM (82) 455 final

³ COM (84) 566 final covering mid-1982 to end 1983.

COM (85) 713 final covering 1984

COM (88) 109 final covering 1985 and 1986

COM (90) 2290 final covering January 1987-June 1990

⁴ Recommendation 91/4/Euratom

It covers the two plans still being examined when the previous report was drawn up, the nine plans submitted and examined during the period July 1990-June 1994, and the two plans that were submitted during the same period but were still being examined at the end of that period.

2 PROCEDURE FOR APPLYING ARTICLE 37

2.1 Background

The Commission Recommendation of 3 February 1982 on the application of Article 37¹ introduced the idea of preliminary general data, indicated what data should be included in the preliminary and final communications and, finally, laid down the procedure to be followed by the Member States when submitting disposal plans to the Commission.

When the previous report appeared, the 1982 version of this recommendation was being revised. The revised version subsequently produced was adopted on 12 December 1990². It is reproduced in full in Annex 1.

The revised version takes account of the experience gained up to that point and of the amendments and additions mentioned in the previous Commission report to the European Parliament. In particular, the fifth recital of the preamble to the Recommendation refers to the judgment handed down by the European Court of Justice in September 1988³, according to which the competent national authorities could not validly issue a discharge authorisation pertaining to a plan covered by Article 37 until the Member State concerned had received and considered the Commission's opinion on that plan. The Recommendation (Article 3) therefore calls for the relevant general data to be submitted to the Commission whenever possible one year, but not less than six months, before any discharge authorisation is granted by the competent national authorities and not – as provided for in the 1982 version – one year or six months before the commencement of disposal operations.

The following three additions incorporated into the 1990 version deserve mention:

- a) where a change to a plan for the disposal of radioactive waste that has already been submitted could cause an appreciable increase in the exposure of the population of another Member State, the Commission recommends that the new general data be submitted

¹ OJ L 83 of 29 March 1982

² Published in OJ L 6 of 9 January 1991

³ Judgment of 22 September 1988, Case 187/87

to it within the same time limits as those mentioned above (Article 6);

- b) the addition of Article 9, recommending that the Member State inform the Commission of the measures it intends to take in response to the Commission's recommendations;
- c) the addition of Article 10, recommending that the Commission be notified of any authorisation for radioactive waste disposal, for information purposes.

The full text of the new recommendation is given in Annex 1 of this report.

2.2 Stages in the procedure

In chronological order, the various stages leading to the issuing of the Commission opinion provided for in the Euratom Treaty are as follows:

- (i) Communication of the general data by the Member State concerned to the Commission's Secretariat-General.
- (ii) Initial examination of the documents by the competent Commission department, which also acts as the secretariat for the group of experts. The purpose of this initial examination is to check that the data specified in the Recommendation have been submitted and that they constitute an adequate basis for a more detailed examination of the plan.
- (iii) Forwarding of the general data, in an appropriate language, by the secretariat to members of the group of experts and other competent Commission departments.
- (iv) Preparation by the secretariat, based on the general data, of a "study" (see (v)(a) below) or a "draft experts' report to the Commission" (see (v)(b) below) and of a list indicating the data that are missing and the additional details that are needed.
- (v) Consultation of the group of experts and drawing up of the group's opinion. The procedure for consulting the group of experts varies according to the category of operations (as referred to in Article 1 of the Recommendation) to which the plan relates.
 - a) In the case of Category 1 operations (nuclear reactors and fuel reprocessing plants), the secretariat sends the study which it has prepared, in an appropriate language, to members of the group of experts and to other competent Commission departments and then invites the experts and departments in question to a meeting. A delegation from the Member State that submitted the plan is also invited to

attend part of the meeting in order to supply the missing data and the additional details which are needed (see (iv)) or requested by the experts and the other departments. When the delegation has left, the experts:

- where necessary, amplify/correct the study in the light of the information provided during the meeting by the delegation of the Member State concerned
- supplement the study by preparing an additional section on "experts' conclusions and opinion"
- approve the "experts' report to the Commission" consisting of the study together with the additions and corrections mentioned.

b) As regards the other categories, the secretariat puts together its own questions (see (iv)) and those forwarded by the members of the group of experts after reading the general data, sends a direct written request to the Member State concerned for the missing data and the additional information needed, and prepares a "draft report of the group of experts to the Commission". This document, which also includes the draft conclusions and opinion of the experts, is then sent in an appropriate language, for their comments and approval, to the members of the group and the other competent Commission departments, after which it is approved as an "experts' report to the Commission".

- (vi) Drawing up of the draft opinion by the secretariat.
- (vii) Forwarding, by the secretariat, of the Commission's draft opinion (accompanied by the group of experts' report) to the other competent departments for consultation purposes.
- (viii) Translation into the nine languages and approval of the draft opinion by the Commission.
- (ix) Communication of the Commission's opinion and the group of experts' report (which sets out the grounds for the opinion) to the Member State concerned.
- (x) Publication of the opinion in the Official Journal of the European Communities.

2.3 Contents of the experts' report

Apart from giving a brief description of the plan and of the related monitoring and safety facilities, the experts' report also assesses the potential radiological consequences of the following:

- a) the discharge of gaseous and liquid radioactive effluents in normal operation
- b) the disposal of solid radioactive waste in normal operation
- c) unplanned discharges of radioactive effluents that may occur in the event of an accident.

If the operator has made any applications for a discharge authorisation, the information contained in such an application is taken into account when drawing up the report.

The report ends by stating if and to what extent the implementation of the plan is liable, in normal operation or in the event of an accident, to result in contamination, significant from the point of view of health, of the territory of another Member State.

2.4 The group of experts

Originally, the group of experts referred to in Article 37 was the same group as that referred to in Article 31, whose task is to help in the preparation of basic safety standards. The group consisted mainly of public health experts. However, given the technical aspects involved in assessing health risks associated with radioactive effluent discharges, it was thought useful to add some technical experts to the existing specialists. As a result, at its meeting on 13 October 1959, the Scientific and Technical Committee (STC) which had been set up under Article 134 of the Euratom Treaty and was responsible under Article 31 for appointing experts to the group decided that, in order to carry out the tasks arising out of Article 37, the group in question would consist of six public health experts and six experts representing various technical disciplines.

For all the technical disciplines to be represented, it soon became necessary to increase the number of technical experts. Consequently, at its meeting on 4 December 1962, the STC, on a proposal by its members, appointed a further six experts to the group. Following the enlargement of the Community, the group expanded; its present composition, broken down by country, is shown in Annex 3. Administrative support for the group is provided by DG XI/C/1 (the former DG XI/A/1).

The members of the group are appointed for a five-year term (although some members may be replaced during this period), as are the members of the STC. The current members' term of office expires on 31 March 1998.

The chairmanship of the group varies according to which country has the presidency of the Council of Ministers. However, where a plan is submitted by the Member State from which the chairman comes, the chairmanship is transferred, while the plan is being considered, to an

expert from the Member State holding the previous or next presidency of the Council.

2.5 Remark concerning deadlines

The general data are usually submitted to the Commission only in the language of the Member State providing them. The work involved in translating both them and the related documents (study, draft and final experts' report, Commission opinion) takes up a large proportion of the period specified for the overall procedure and thus reduces still further the time available to the Commission for delivering its opinion.

3 IMPLEMENTATION OF THE PROCEDURE

3.1 Preliminary general data

In the case of plans for the disposal of waste from nuclear power stations and nuclear fuel reprocessing plants, Member States are called on to submit to the Commission certain "preliminary general data", as specified in Annex 2 to the Recommendation, before permission for construction is granted by the competent national authorities.

Since such data are not required under Article 37, their submission at this stage is a response to a request for information and not an obligation. In consequence, few Member States have complied with this request since it was first introduced in the 1982 Recommendation. Thus, over the 13-year period 1982-1994, the Commission received preliminary general data on seven occasions only, while no such data were submitted during the period covered by this report.

An EEC directive of 27 June 1985⁴ which has been applicable since July 1988 requires that for certain types of project, including the larger nuclear installations, an environmental impact assessment and public consultation take place before the developer is granted an authorisation. However, the resulting procedures are the responsibility of the Member State concerned and the Commission plays no part in them.

3.2 Definitive general data

The data to be submitted by the Member States to the Commission in respect of disposal plans are specified in Annexes IA and IB to the Recommendation, which further provides, in Article 3, for submission whenever possible one year, but not less than six months, before a disposal

⁴ Directive 85/337/EEC published in OJ L 175/41 of 5 July 1985

authorisation is granted. This corresponds to the time limit laid down in Article 37 for submitting the Commission's opinion.

Following the submission, the Commission, under the procedure described in 2.2, consults the group of experts referred to in Article 37, which examines the plan and then provides the Commission with its report. On the basis of this report, the Commission delivers its opinion on the plan concerned, communicates this opinion to the government of the Member State submitting the plan and publishes it in the Official Journal.

In all, 11 plans were submitted to the Commission between July 1990 and June 1994. Opinions have been issued on nine of these, the remaining two being still under examination. In addition, the Commission issued two opinions on plans that were still under examination when the previous report was published.

The plans came from six Member States and cover practically the whole of the nuclear fuel cycle. They are listed in the following table and described in detail in Annex 2.

TYPE OF INSTALLATION	NAME and COUNTRY
2 nuclear power stations	Sizewell B (UK) Chooz B (F)**
5 waste treatment and/or storage facilities	Windscale (UK)* Aube (F) Covra (NL) El Cabril (E) Konrad (D)**
4 fuel fabrication plants	Lingen (D)* Demox P1 (B) Melox (F) Hanau (D)
1 fuel reprocessing plant	Thorp (UK)
1 uranium ore processing plant	Quercus (E)

* Project being examined at beginning of period covered by this report

** Project still being examined at end of period covered by this report.

4 POINTS ARISING FROM THE OPINIONS

4.1 Timing of communications and opinions

As regards the plans for which an opinion was issued during the reference period, the six-month time limit imposed on the Commission was in most cases complied with. However, four opinions were issued a few days late, two of them relating to plans still under examination at the beginning of the period covered by this report.

4.2 General remarks

For all the plans examined during the reference period, the Commission expressed the opinion "*that the implementation of the plan is not liable, either in normal operation or in the case of an accident of the magnitude considered, to result in radioactive contamination, significant from the point of view of health, of the water, soil or airspace of another Member State*".

4.3 Specific points

4.3.1 Normal operating conditions

All the opinions issued contain the conclusion that the discharges in question "are not liable to result in exposure, significant from the point of view of health, of the population of other Member States". In the case of the Thorp plant at the Sellafield site, the opinion also points out that, although discharges into the Irish Sea are not confined to those from the Sellafield site, "taking account of exposure arising from such other discharges would not alter this conclusion".

4.3.2 Accident situations

In the cases of Thorp and Sizewell B, although the accident situations taken into account are not liable to result in exposure, significant from the point of view of health, of the population of another Member State, the Commission recommended that the arrangements for the transmission of information, in the event of an accident, between the United Kingdom authorities on the one hand and the Irish authorities (for Thorp) and Belgian authorities (for Sizewell) on the other, be formalised under bilateral agreements, given that such agreements already exist in these two cases with France and the Netherlands.

5 SUMMARY AND CONCLUSIONS

During the period July 1990 - June 1994, the Commission

delivered opinions on:

- a) two plans which were still being examined at the end of the previous reference period
- b) nine plans submitted during the reference period

and began examining two plans submitted at the end of the reference period. The 13 plans mentioned relate to six Member States and cover almost the whole of the nuclear fuel cycle.

In all the opinions issued, the Commission concluded that the routine discharges of radioactive effluents were not liable to result in radioactive contamination, significant from the point of view of health, of another Member State.

As regards potential accident situations, the Commission recommended in two cases that intergovernmental bilateral information agreements be concluded.

ANNEX 1

COMMISSION

COMMISSION RECOMMENDATION

of 7 December 1990

on the application of Article 37 of the Euratom Treaty

(91/4/Euratom)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Articles 37 and 124 thereof,

Having consulted the group of experts appointed in accordance with Article 31 of the Treaty by the Scientific and Technical Committee.

Whereas Article 37 requires that each Member State is to provide the Commission with such general data relating to any plan for the disposal of radioactive waste in whatever form as would 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 is to deliver its opinion within six months, after consulting the group of experts referred to in Article 31;

Considering the experience acquired in the application of the Commission recommendations of 16 November 1960 (*) and 82/181/Euratom (†) concerning the application of Article 37 of the Treaty;

Whereas the Court of Justice of the European Communities in its judgment in Case 187/87 (‡) rules that: 'Article 37 of the Treaty of 25 March 1957 establishing the European Atomic Energy Community must be interpreted as meaning that the Commission of the European Communities must be provided with general data relating to any plan for the disposal of radioactive waste before such disposal is authorized by the competent authorities of the Member State concerned.'

Whereas in the same judgment the Court stated that: 'Consequently, it must be acknowledged that, (...) where a Member State makes the disposal of radioactive waste

subject to authorization, the Commission's opinion must, in order to be rendered fully effective, be brought to the notice of that State before the issue of any such authorization.'

Whereas to ensure that the basic safety standards for the health protection of the population are uniformly applied and to appraise disposal plans in a consistent manner, it is necessary to specify the information to be supplied:

HEREBY RECOMMENDS:

1. That the 'disposal of radioactive waste' within the meaning of Article 37 of the Treaty should cover any form of disposal, planned or accidental, of radioactive substances from the operations listed in the three categories below.

CATEGORY 1 OPERATIONS

- (1) The operation of nuclear reactors
- (2) The reprocessing of irradiated nuclear fuel

CATEGORY 2 OPERATIONS

- (1) The mining, milling and conversion of uranium and thorium
- (2) U 235 enrichment of uranium
- (3) The fabrication of nuclear fuel
- (4) The processing and storage (*) of radioactive waste arising from category 1 and category 2 operations
- (5) The sea dumping of radioactive waste from category 1 and category 2 operations

(*) OJ No 81, 21. 12. 1960, p. 1893/60.

(†) OJ No L 83, 29. 3. 1982, p. 15.

(‡) Report of Cases before the Court (1988), p. 5013.

(*) Provided that the operation is not incorporated in a plan submitted under another heading.

- (6) The land or sea burial of radioactive waste from category 1 and category 2 operations
- (7) The storage⁽¹⁾ of irradiated nuclear fuel on sites other than those involving category 1 operations
- (8) The dismantling⁽²⁾ of installations involving category 1 operations
- (9) The handling or processing of radioactive substances on an industrial scale.

CATEGORY 3 OPERATIONS

All other operations giving rise to radioactive waste.

- 2. That 'general data' within the meaning of Article 37 of the Treaty be understood to mean:
 - for category 1 operations the information set out in Annexes 1A and 2,
 - for category 2 operations other than (5) and (6) the information set out in Annex 1A and for category 2, operations (5) and (6), that set out in Annex 1B,
 - for category 3 operations the information set out in paragraph 8 (b).
- 3. That, for plans involving category 1 and category 2 operations, the relevant parts of the 'general data' listed in Annex 1A or 1B be submitted to the Commission whenever possible one year but not less than six months
 - before any authorization for the disposal of radioactive waste is granted by the competent authorities,
 - or
 - before start-up of those category 2 operations for which no disposal authorization is foreseen.
- 4. That, for plans involving category 1 operations, the preliminary 'general data' listed in Annex 2 be submitted to the Commission before permission for construction is granted by the competent authorities.
- 5. That, if a Member State considers it appropriate, it may request from the Commission an opinion on any plan for the disposal of radioactive waste on its own territory and not called for by the present recommendation.
- 6. That, if a plan for the disposal of radioactive waste, on which an opinion has already been given under the

terms of Article 37, is modified such that this could cause an appreciable increase of the exposure of the population of another Member State, the relevant 'general data' be submitted to the Commission whenever possible one year but not less than six months before any new authorization for the disposal of radioactive waste is granted by the competent authorities.

- 7. That, since submission of a plan for the disposal of radioactive waste is the responsibility of the relevant Member State, that Member State accept responsibility for all information submitted to the Commission in respect of such a plan.
- 8. That there be communicated to the Commission:
 - (a) every two years, a statement of the radioactive waste discharges from each installation involving category 1 or category 2 operations;
 - (b) every five years, an estimate of the total radioactive liquid waste discharges from all category 3 operations into any water medium (e.g. hydrographic basin, sea, etc.). This estimate may be based on the discharge data for individual installations or on measurements in the receiving water medium;
 - (c) prior to any dumping of radioactive waste in the sea, a copy of the notification communicated to other international bodies.
- 9. That the Government concerned informs the Commission of the actions it envisages in response to any recommendation given in an opinion of the Commission on a disposal plan.
- 10. That Member States communicate to the Commission for information the authorization(s) for radioactive waste disposal.

This recommendation is addressed to the Member States.

It replaces recommendation 82/181/Euratom.

Done at Brussels, 7 December 1990.

For the Commission

Carlo RIPA DI MEANA

Member of the Commission

(1) Provided that the operation is not incorporated in a plan submitted under another heading.

(2) Stage 2 or 3, as defined by the International Atomic Energy Agency (*Safety Series No 52*, IAEA, Vienna, 1980).

ANNEX 1A

'GENERAL DATA'

applicable to category 1 operations and category 2 operations other than (5) and (6)

INTRODUCTION

General presentation of the plan

1. THE SITE AND ITS SURROUNDINGS

1.1 Geographical and topographical situation of the site with

- a map of the region showing the location of the site.
- the location of the plant in relation to other nuclear installations, existing or planned, on the same or other site(s), discharges from which may have implications for discharges from the plant in question.
- the location of the plant with regard to other Member States giving the distances from frontiers and closest conurbations.

1.2 Geology — Seismology

Brief description of

- the main geological features of the region,
- the degree of seismic activity; probable maximum seismic intensity and designated plant seismic response.

1.3. Hydrology

For a plant situated beside a watercourse

Description of the watercourse with

- a general description of its path (major features, main tributaries, estuary, etc.),
- the average waterflow at the site,
- the maximum and minimum waterflows stating frequency and periods of occurrence.

Where the river flows through the territory of one or more other Member States downstream of the site, corresponding information in respect of the State(s).

For a plant situated on the coast

General description of the coastal area with

- heights of the tides,
- direction and force of currents, both local and regional.

In both cases

- flood-risk and protection of the site,
- water-table level and direction of flow.

1.4 Meteorology and climatology

- regional climatology taking account of orographic features (plains, valleys, mountain ranges),
- local climatology with frequency distributions of:
 - wind directions and speeds,
 - precipitation intensity and duration,
 - for each wind sector, atmospheric dispersion conditions and duration of temperature inversions.

1.5. Natural resources

Brief description of

- soil characteristics and ecological features of the region,
- water utilization in the region for drinking, irrigation, etc.,
- principal food resources, methods and scale of production ; crops, stock breeding, fishing, hunting, for discharges into the sea, data on fishing in territorial and extra-territorial waters,
- foodstuffs distribution system and particularly the export to other Member States of agricultural products, fish or game from the regions concerned.

1.6. Other activities in the vicinity of the site

- industrial or military sites, surface and aerial traffic, bulk transport by pipeline,
- possible influence on the plant ; protective measures,
- regulations covering industrial or other development.

1.7. Population

- distribution of the populations of interest in other Member States,
- pattern of daily life and eating habits of these populations ;

main features ; the data required concern the population distribution (density), noting conurbations and any particular characteristics in so far as these are related to the risk of exposure from discharges through the significant exposure pathways.

2. THE PLANT

2.1. Main features of the plant

Brief description of the plant, giving the type, purpose and main features

- for reactors : main features of the reactor, the reactor building, the auxiliary installations, the fuel storage facilities, safety provisions, etc.,
- for other plants or laboratories : main features of processes used ; throughput of radioactive and fissile materials, installations which make up the plant, safety provisions, etc.

2.2. Ventilation system

Schematic diagrams and description indicating function in normal operating conditions and in the case of an accident, air flows, relative pressures in the buildings and heights of release ; data on filters, their efficiency, methods and frequency of testing.

2.3. Containments

Brief description and main characteristics ; methods and frequency of testing for leaktightness.

2.4. Time scale

- commissioning period and date for routine operation of the plant,
- present stage of licensing procedure.

2.5. Decommissioning and dismantling of the plant

Outline of technical and administrative provisions

3. RELEASE OF AIRBORNE RADIOACTIVE EFFLUENTS IN NORMAL OPERATION

3.1. Authorization procedure in force

- outline of the general procedure involved,
- discharge limits envisaged by the authorities (if not available, maximum discharges foreseen).

3.2. Technical aspects

- origins of these radioactive effluents, their composition and physico-chemical forms,
- purification and holdup of these effluents, methods and paths of release.

3.3. Monitoring of discharges

- sampling, measurement and analysis of discharges,
- principal features of the monitoring equipment,
- alarm levels, intervention actions (manual and automatic).

3.4. Evaluation of transfer to man

3.4.1. models and parameters used to calculate :

- atmospheric dispersion of the effluents,
- ground deposition and resuspension,
- transfer via food chains,
- exposure levels via the significant exposure pathways.

3.4.2. evaluation of concentration and exposure levels associated with discharges cited in 3.1. above :

- in the case of continuous release : average annual concentrations of activity in the atmosphere near the ground and surface contamination levels.
- in the case of intermittent release and planned special release : time integrated concentrations in the atmosphere near the ground and surface contamination levels.

These data are to be provided for the most exposed areas in the vicinity of the plant and for relevant areas in other Member States.

- corresponding exposure levels⁽¹⁾ : dose equivalents to those living in the relevant areas of other Member States taking account of all significant exposure pathways.

3.5. Radioactive discharges to atmosphere from those installations cited under 1.1.

Where appropriate, procedures for coordination with discharges from other installations, where there may be an additive effect for the exposure levels.

4. RELEASE OF LIQUID RADIOACTIVE EFFLUENTS IN NORMAL OPERATION

4.1. Authorization procedure in force

- outline of the general procedure involved,
- discharge limits envisaged by the authorities (if not available, maximum discharges foreseen).

⁽¹⁾ The values submitted should reflect the fact that the results can represent little more than orders of magnitude to which it would be inappropriate to ascribe a false precision.

4.2. Technical aspects

- origins of these radioactive effluents, their composition and physico-chemical forms,
- treatment of these effluents, storage capacities, methods and paths of release.

4.3. Monitoring of discharges

- sampling, measurement and analysis of discharges,
- principal features of monitoring equipment,
- alarm levels, intervention actions (manual and automatic).

4.4. Evaluation of transfer to man

4.4.1. models and parameters used to calculate :

- aquatic dispersion of the effluents,
- their transfer by sedimentation and ion exchange,
- transfer via food chains,
- exposure levels via the significant exposure pathways.

4.4.2. evaluation of the exposure levels (*) associated with the discharges cited in 4.1 above : dose equivalents to those living in relevant areas of other Member States, taking account of all significant exposure pathways.

4.5. Radioactive discharges into the same receiving waters by other installations

Where appropriate, procedures for coordination with discharges from other installations, where there may be an additive effect for the exposure levels.

5. DISPOSAL OF SOLID RADIOACTIVE WASTE

5.1. Categories of solid radioactive wastes and estimated amounts

5.2. Processing and packaging

5.3. Intermediate storage ; storage capacities and conditions, radiological risks to the environment, precautions taken

6. UNPLANNED RELEASES OF RADIOACTIVE EFFLUENTS

6.1. Review of accidents of internal and external origin which could result in unplanned releases of radioactive substances

List of the accidents studied in the safety report.

6.2. Reference accident(s) taken into consideration by the competent national authorities for evaluating possible radiological consequences in the case of unplanned releases

Outline of the accident(s) considered and justification of its (their) choice.

6.3. Evaluation of the radiological consequences of the reference accident(s)

(*) The values submitted should reflect that the results can represent little more than orders of magnitude to which it would be inappropriate to ascribe a false precision.

6.3.1. Entailing releases to atmosphere

- assumptions used to calculate the releases to atmosphere,
- release paths; time pattern of the releases,
- amounts and physico-chemical forms of those radionuclides released which are significant from the point of view of health,
- models and parameters used to calculate for the releases their atmospheric dispersion, ground deposition, resuspension and transfer via food chains and to evaluate the exposure levels via the significant exposure pathways,
- maximum time-integrated concentrations of radioactivity in the atmosphere near the ground and maximum surface contamination levels (in dry and wet weather) for the most exposed areas in the vicinity of the plant and for relevant areas in other Member States,
- corresponding exposure levels^(*): dose equivalent to those living in relevant areas of other Member States taking account of all significant exposure pathways.

6.3.2. Entailing releases into an aquatic environment

- assumptions used to calculate the liquid releases,
- release paths, time pattern of releases,
- amounts and physico-chemical forms of those radionuclides released which are significant from the point of view of health,
- models and parameters used to calculate for the releases their aquatic dispersion, their transfer by sedimentation and ion exchange, their transfer via food chains and to evaluate the exposure levels via the significant exposure pathways,
- corresponding exposure levels^(*): dose equivalents to those living in the vicinity of the plant and in relevant areas of other Member States taking account of all significant exposure pathways.

6.4. Emergency plans; agreements with other Member States

Brief description of emergency planning zones, emergency reference levels of dose, bilateral or multilateral agreements on transfrontier communications and mutual assistance, rehearsals, reviewing and updating of emergency plans.

7. ENVIRONMENTAL MONITORING

- external radiation levels,
- radioactivity in air, water, soil and the food chains.

With reference to 3.1 and 4.1 above, monitoring programmes as approved by the competent national authorities, organization, sample forms and frequency, type of monitoring instruments used in normal and accidental circumstances; where appropriate, any collaboration arrangements in this respect with neighbouring Member States.

^(*) The values submitted should reflect that the results can represent little more than orders of magnitude to which it would be inappropriate to ascribe a false precision.

ANNEX 1B**'GENERAL DATA'**

applicable to category 2, operations (5) and (6)

(for plans concerning new disposal sites)

1. The site and surroundings

Location, depth, geology, seismology, and

for a sea site: seabed characteristics (including the presence of pipelines and submarine cables) currents and other dispersion mechanisms, relevant biological data, risk of disturbance (e.g. by exploitation of marine resources, by dumping of other wastes etc.)

for a land site: hydrology, use of land and of ground water, repository design including safety features and capacity, long term control of the site.

2. The wastes

Volumes, radionuclides present, activities, prohibited wastes, conditioning and packaging, assumed leak rates and, where appropriate, heat release rates.

3. Environmental effects

Assessment of the radiological consequences to the environment.

4. Operational procedures

Including measures to be taken in the event of incidents.

5. Monitoring

Radiation monitoring programme(s).

ANNEX 2

PRELIMINARY 'GENERAL DATA'

applicable to category 1 operations

1. The site and its surroundings

- map of the region showing the location of the plant with regard to other nearby nuclear installations and to other Member States,
- main seismic characteristics of the region,
- main characteristics of the waterbodies receiving radioactive effluents,
- main regional and local climatological characteristics,
- industrial or military activities in the vicinity of the plant,
- population distribution in adjacent regions of other Member States concerned.

2. The plant

- brief description of the plant and its main safety features,
- time scale of plant construction.

3. Forecast releases of radioactive effluents

- estimate of annual radioactive discharges and their radiological consequences.

4. Accidental releases of radioactive effluents

- list of accidents considered in the preliminary safety report,
- preliminary evaluation of the radiological consequences of the reference accident(s).

ANNEX 2
Details of plans submitted

Site	Distance to another Member State	Type of installation	Opinion issued	OJ reference
Sellafield (UK)	180 km (IRL)	Windscale vitrification plant and vitrified product store	7/90	L 193/35
Dessel (B)	11 km (NL)	Demox P1 fuel fabrication plant	11/90	L 337/23
Lingen (D)	20 km (NL)	Fuel element fabrication plant (extension)	12/90	L 356/39
Hanau (D)	145 km (L)	Siemens AG fuel fabrication plant	5/91	L 142/39
Soulaines-Dhuys (F)	200 km (B and L)	Aube storage centre for radioactive waste	11/91	L 324/34
Sloe (NL)	16 km (B)	Covra NV radioactive waste processing and storage facility	4/92	L 121/44
Saelices el Chico (E)	14 km (P)	Quercus uranium ore processing plant	4/92	L 128/26
Sellafield (UK)	180 km (IRL)	Thorp nuclear fuel reprocessing plant	4/92	L 138/36
El Cabril (E)	126 km (P)	Storage facility	5/92	L 189/40
Sizewell (UK)	140 km (F, B and NL)	PWR nuclear power station 1x1175 MWe	11/92	L 344/40
Marcoule (F)	180 km (I)	Melox nuclear fuel fabrication plant	3/94	L 80/24
Chooz (F)	4 km (B)	PWR nuclear power station 2x1400 MWe		
Salzgitter (D)	220 km (NL)	Konrad radioactive waste repository		

PWR: Pressurised Water Reactor

ANNEX 3
Composition, by Member State, of the Article 37 group of experts
on 30 June 1994

BELGIUM	3
GERMANY	4
DENMARK	2
SPAIN	4
IRELAND	2
FRANCE	4
UNITED KINGDOM	4
GREECE	2
ITALY	4
LUXEMBOURG	2
NETHERLANDS	3
PORTUGAL	3
TOTAL	37

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