



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 14.3.2005
SEC(2005) 343

COMMISSION STAFF WORKING DOCUMENT

Annex to the :

**Report on the application of Article 37 of the Euratom Treaty, July 1994 to
December 2003**

{COM(2005)85 final}

- ANNEX I Commission Recommendation 1999/829/Euratom
- ANNEX II The group of experts in Article 37
- ANNEX III Activities submitted during the period in question
- ANNEX IV Details of submissions
- ANNEX V Specific points arising from the opinions
- ANNEX VI Overview of infringements of Article 37

COMMISSION RECOMMENDATION

of 6 December 1999

on the application of Article 37 of the Euratom Treaty

*(notified under document number c(1999) 3932)***(1999/829/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 persons appointed in accordance with Article 31 of the Treaty by the Scientific and Technical Committee,

- (1) 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 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 is to deliver its opinion within six months, after consulting the group of experts referred to in Article 31;
- (2) Considering the experience acquired in the application of the Commission recommendations of 16 November 1960¹, 82/181/Euratom² and 91/4/Euratom³ concerning the application of Article 37 of the Treaty;
- (3) Whereas the Court of Justice of the European Communities in its judgement of 22 September 1988 in Case 187/87⁴ ruled as follows:; “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”;
- (4) Whereas in the same judgement the Court stated that, ‘Consequently, it must be acknowledged that, where a Member State makes the disposal of radioactive waste subject to authorisation, 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 authorisation’;
- (5) Whereas Article 37 has as its objective to forestall any possibility of radioactive contamination of another Member State; whereas the Commission, having consulted the abovementioned group of experts, has deemed disposal of radioactive waste associated with certain operations to be not liable to result in the radioactive contamination of another Member State;
- (6) Whereas in exceptional cases due to information received, the Commission may call for general data to be submitted for a plan for the disposal of radioactive waste, otherwise deemed not to be liable to result in the radioactive contamination of another Member State on the basis of the present Recommendation; whereas the Commission’s opinion may then pertain to an authorisation which has been granted at an earlier stage;

¹ OJ 81, 21.12.1960, p. 1893/60.

² OJ L 83, 29.3.1982, p. 15.

³ OJ L 6, 9.1.1991, p. 16.

⁴ [1988] ECR, p. 5013.

- (7) Whereas the basic safety standards for the health protection of the general public and workers against the dangers of ionising radiation have been revised by Directive 96/29/EURATOM⁵ and the application of Article 37 should reflect these revisions where appropriate;
- (8) Whereas to appraise disposal plans in a consistent manner, it is necessary to specify which types of operation may result in the disposal of radioactive waste within the meaning of Article 37 of the treaty, and to specify for the different types of operation which information is to be supplied as the general data;
- (9) Whereas all Member States have now declared that they will desist from sea dumping,

HEREBY RECOMMENDS:

1. That the ‘disposal of radioactive waste’ within the meaning of Article 37 of the Treaty should cover any planned disposal or accidental release of radioactive substance associated with the operations listed below, in gaseous, liquid or solid form in or to the environment.
 1. The operation of nuclear reactors.
 2. The reprocessing of irradiated nuclear fuel.
 3. The mining, milling and conversion of uranium and thorium.
 4. U 235 enrichment of uranium.
 5. The fabrication of nuclear fuel.
 6. The storage of irradiated nuclear fuel in dedicated facilities⁶.
 7. The handling and processing of radioactive substances on an industrial scale⁷.
 8. The processing or storage of radioactive waste⁶ arising from operations (1) to (7) and (9).
 9. The dismantling of nuclear reactors and reprocessing plants.
 10. The emplacement above or under the ground of radioactive wastes without the intention of retrieval.
 11. The sea dumping of radioactive waste⁸.
 12. The sub-seabed burial of radioactive wastes⁸.
 13. Work activities involving natural radiation sources and identified under the terms of Title VII of the Basic Safety Standards by the Member States involved as being of concern with regard to the resulting disposal of radioactive wastes and as requiring to be subject to prior authorisation.
 14. All other operations.
2. That ‘general data’ within the meaning of Article 37 of the Treaty be understood to mean:
 - for operations (1) to (8) the information set out in Annex 1
 - for operations listed under (9) the information set out in Annex 2
 - for operations listed under (10) the information set out in Annex 3
 - for operations listed under (11) and (12) such information as will be required by the Commission on a case-by-case basis
 - for operations listed under (13) the relevant parts of the information set out in Annex 1, as required for the specific work activity (Chapters 6 and 7 are normally not applicable).
3. That operations falling within the scope of point 1 (14) are deemed not to be liable to result in the radioactive contamination of another Member State, significant from the point of view of health, unless in any specific case the Commission calls for such general data to be provided.

⁵ OJ L 159, 29.6.1996, p. 1, to be implemented by May 2000.

⁶ Provided that the operation is not incorporated in a plan submitted under another heading.

⁷ Excluding industrial work activities (involving the presence of natural radiation sources) covered by Title VII of the Basic Safety Standards (Directive 96/29/Euratom).

⁸ At this moment no Member State intends to carry out this operation.

4. That, if a Member State envisages modifying a plan for the disposal of radioactive waste, the submission of general data be governed by the following conditions:
 - 4.1.(a) If a Member State envisages modifying a plan for the disposal of radioactive waste, on which an opinion has already been given under the terms of Article 37, a submission of general data containing at least the information set out in a standard form in Annex 4 is necessary if the authorised waste are less restrictive than in the existing plan or if the potential consequences of the reference accident(s) evaluated in the licensing procedure are increased.
 - 4.1.(b) Unless the Commission calls for general data to be communicated, no submission of general data is necessary if no new authorisation or license is required.
or if:
 - the modification of the plan for the disposal of radioactive waste envisages unchanged or more restrictive authorised limits and associated requirements than in the existing plan and
 - the potential consequences of the reference accident(s) are unchanged or decreased.
 - 4.2. In the case of a plan for the disposal of radioactive waste on which no opinion has already been given under the terms of Article 37, a submission of the general data is necessary unless the Member State provides the Commission with a statement demonstrating that the conditions outlined in point 4.1.(b) are met.
5. That, the 'general data' be submitted to the Commission:
 - 5.1. whenever possible one year but not less than six months
 - before any authorisation for the disposal of radioactive waste is granted by competent authorities, or
 - before start-up of those operations for which no disposal authorisation is foreseen, or
 - for operations (9), if the proposed authorised limits and associated requirements for the disposal of radioactive waste are less restrictive than those in the plan for the existing installation, or if the potential consequences of reference accident(s) are increased, before any corresponding new authorisation for the disposal of radioactive waste is granted by the competent authorities, and,
 - 5.2. in cases where the Commission has called for general data in accordance with point 3, no later than six months after the request, without prejudice to any authorisation duly granted by the competent authorities pending receipt of the Commission's request. Any authorisation granted before the Commission called for general data shall be reviewed in the light of the Commission's subsequent opinion.
6. That, since submission of a plan for the disposal of radioactive waste is the responsibility of the relevant Member State, that State accepts responsibility for all information submitted to the Commission in respect of such a plan.
7. That the Member State 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.
8. That Member States communicate to the Commission for information:
 - (a) the authorisation(s) for disposal of radioactive waste for comparison with the information in the general data on which its opinion was based;
 - (b) preferably annually and at least every two years, a statement on the radioactive liquid and atmospheric waste discharges to the environment from nuclear power reactors and reprocessing plants and, where appropriate, revisions of the authorisation(s) for disposal of radioactive waste that occurred during the period covered. This statement should be provided within nine months of that period.

This recommendation is addressed to the Member States.

It replaces recommendation 91/4/Euratom.

Done at Brussels, 6 December 1999.

For the Commission
Margot WALLSTRÖM
Member of the Commission

ANNEX 1
‘GENERAL DATA’
applicable to Operations (1) to (8)

INTRODUCTION

- general presentation of the plan,
- present stage of licensing procedure, envisaged commissioning steps.

1. The site and its surroundings

- 1.1. *Geographical, topographical and geological features of the site and the region with*
 - a map of the region showing the location and geographical coordinates (degrees, minutes) of the site
 - the relevant features of the region
 - the location of the installation in relation to such other installations, the discharges from which need to be considered in conjunction with those from the installation in question
 - the location of the site with regard to other Member States giving the distances from frontiers and closest conurbations, together with their populations.
 - 1.2. *Seismology*
 - the degree of seismic activity in the region; probable maximum seismic activity and designed seismic resistance of the installation.
 - 1.3. *Hydrology*

For an installation situated near to a water body providing a potential contamination pathway to another Member State, a brief description of appropriate hydrological features, extending to the other Member State(s), for example:

 - brief description of the path(s), tributaries, estuary, water abstraction, flood plains, etc.
 - average, maximum and minimum water flows and their frequency of occurrence
 - underground water table, levels and flows
 - brief description of the littoral areas
 - direction and force of currents, tides, circulation patterns, both local and regional
 - flood risk and protection of the installation.
 - 1.4. *Meteorology*

Local climatology with frequency distributions of:

 - wind directions and speeds
 - precipitation intensity and duration
 - for each wind sector, atmospheric dispersion conditions, duration of temperature inversions.
 - 1.5. *Natural resources and foodstuffs*

Brief description of:

 - soil characteristics and ecological features of the region
 - water utilisation in the region and as appropriate in neighbouring Member States
 - principal food resources in the region and as appropriate in other Member States: crops, stock breeding, fishing, hunting and, for discharges into sea, data on fishing in territorial and extraterritorial waters
 - foodstuff distribution system and particularly the export to other Member States from the regions concerned, in so far as they are related to the risk of exposure from discharges through the significant exposure pathways.
 - 1.6. *Other activities in the vicinity of the site*
 - where appropriate, any industrial or military activities, surface and aerial traffic and any other factors which may have an influence on the safety of the installation
 - protection measures.
- 2. The installation**
- 2.1. *Main features of the installation*
 - brief description of the installation
 - type, purpose and main features of the processes

- site layout plan
- safety provisions.
- 2.2. *Ventilation systems and the treatment of gaseous and airborne wastes*
Description of ventilation, decay, filtration and discharge systems, in normal conditions and in the case of an accident, including flow diagrams.
- 2.3. *Liquid waste treatment*
Description of liquid waste treatment facilities, storage capacities and discharge systems, including flow diagrams
- 2.4. *Solid waste treatment*
Description of solid waste treatment facilities and storage capacities
- 2.5. *Containment*
Description including leaktightness specification and testing
- 2.6. *Decommissioning and dismantling*
 - envisaged period of operation of the installation
 - consideration given to decommissioning and dismantling
 - outline of regulatory and administrative provisions for decommissioning and dismantling.
- 3. Release from the installation of airborne radioactive effluents in normal conditions**
- 3.1. *Authorisation procedure in force*
 - outline of the procedure in force
 - discharge limits and associated requirements envisaged by the authorities, including the assumed radionuclide composition.
- 3.2. *Technical aspects*
 - annual discharges foreseen
 - origins of the radioactive effluents, their composition and physico-chemical forms
 - management of these effluents, methods and paths of release.
- 3.3. *Monitoring of discharges*
 - sampling, measurement and analysis of discharges, whether undertaken by the operator or by competent authorities
 - 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 parameter values used to calculate the consequences of the releases:
 - atmospheric dispersion of the effluents
 - ground deposition and resuspension
 - food chains, inhalation, external exposure etc.
 - living habits (diet, exposure time, etc.)
 - other parameter values used in the calculations
- 3.4.2. Evaluation of concentration and exposure levels associated with discharge limits cited in 3.1:
 - annual average concentrations of activity in the atmosphere near the ground and surface contamination levels, for the most exposed areas in the vicinity of the installation and in other Member States
 - for the reference group(s) in other Member States, corresponding annual exposure levels: effective dose to adults, children and infants, taking account of all significant exposure pathways.
- 3.5. *Radioactive discharges to atmosphere from other installations*
Procedures for coordination with radioactive discharges from other installations referred to in 1.1, third indent.
- 4. Release from the installation of liquid radioactive effluents in normal conditions**
- 4.1. *Authorisation procedure in force*
 - outline of the general procedure involved
 - discharge limits and associated requirements envisaged by the authorities, including the assumed radionuclide composition.
- 4.2. *Technical aspects*
 - annual discharges foreseen

- origins of the radioactive effluents, their composition and physico-chemical forms
- management of the effluents, methods and paths of release.
- 4.3. *Monitoring of discharges*
 - sampling, measurement and analysis of discharges, whether undertaken by the operator or by competent authorities
 - principal features of monitoring equipment
 - alarm levels, intervention actions (manual and automatic).
- 4.4. *Evaluation of transfer to man*
 - 4.4.1. Models and parameter values used to calculate the consequences of the releases:
 - aquatic dispersion of the effluents
 - their transfer by sedimentation and ion exchange
 - food chains, inhalation of sea spray, external exposure, etc.
 - living habits (diet, exposure time, etc.)
 - other parameter values used in the calculations.
 - 4.4.2. Evaluation of concentration and exposure levels associated with the discharge limits cited in 4.1:
 - annual average concentrations of activity in surface waters, at the points where such concentrations are highest, in the vicinity of the installation and in other Member States
 - for the reference group(s) in other Member States: effective dose to adults, children and infants, taking account of all significant exposure pathways.
- 4.5. *Radioactive discharges into the same receiving waters from other installations*
Procedures for coordination with discharges from other installations referred to in 1.1, third indent.
- 5. Disposal from the installation of solid radioactive waste**
 - 5.1. *Categories of solid radioactive waste including, where appropriate, spent fuel, and estimated amounts*
 - 5.2. *Processing and packaging*
 - 5.3. *Storage arrangements*
 - 5.4. *Radiological risks to the environment, precautions taken*
 - 5.5. *Arrangements for the movement and destinations of the different waste categories transferred off site*
 - 5.6. *Criteria for contaminated materials to be released from the requirements of the Basic Safety Standards*
 - clearance levels established by competent authorities.
- 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 reasons for its (their) choice.
 - 6.3. *Evaluation of the radiological consequences of the reference accident(s)*
 - 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 parameter values used to calculate for the releases their atmospheric dispersion, ground deposition, resuspension and transfer via food chains and to evaluate the maximum 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 maximum exposure levels: effective dose to adults, children and infants 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 release
 - 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 maximum exposure levels via the significant exposure pathways
 - corresponding maximum exposure levels: effective dose to adults, children and infants living in the vicinity of the plant and in relevant areas of other Member States taking account of all significant exposure pathways.

7. Emergency plans, agreements with other Member States

In relation to possible radiological emergencies which may affect other Member States in order to facilitate the organisation of radiological protection in these States,

Brief description of:

- intervention levels established for different types of countermeasures
- emergency planning arrangements, including the emergency planning zones adopted for the installation
- arrangements in place for the early exchange of information with other Member States, bilateral or multilateral agreements on transfrontier information, coordination of emergency plans and their implementation and mutual assistance
- emergency plan testing arrangements with particular reference to the involvement of other Member States.

8. Environmental monitoring

- external radiation monitoring
- monitoring of radioactivity in air, water, soil and the food chains, whether undertaken by the operator or by competent authorities.

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

ANNEX 2
'GENERAL DATA'
applicable to Operation (9)

INTRODUCTION

- general presentation of the plan
- description of the different dismantling phases envisaged
- dismantling licensing procedures.

1. The site and its surroundings

- 1.1. *Geographical, topographical and geological features of the site and the region with*
 - a map of the region showing the location and geographical coordinates (degrees, minutes) of the site
 - the relevant features of the region
 - the location of the installation in relation to such installations, the discharges from which need to be considered in conjunction with those from the installation in question
 - the location of the site with regard to other Member States giving the distances from frontiers and closest conurbations, together with their populations.
- 1.2. *Hydrology*

For an installation situated near to a water body providing a potential contamination pathway to another Member State, a brief description of appropriate hydrological features, extending to the other Member State(s), for example:

 - brief description of the path(s), tributaries, estuary, water abstraction, flood plains, etc.
 - average, maximum and minimum water flows and their frequency of occurrence
 - underground water table, levels and flows
 - brief description of the littoral areas
 - direction and force of currents, tides, circulation patterns, both local and regional
 - flood risk and protection of the installation.
- 1.3. *Meteorology*

Local climatology with frequency distributions of:

 - wind directions and speeds
 - precipitation intensity and duration
 - for each wind sector, atmospheric dispersion conditions, duration of temperature inversions.
- 1.4. *Natural resources and foodstuffs*

Brief description of:

 - soil characteristics and ecological features of the region
 - water utilisation in the region and as appropriate in neighbouring Member States
 - principal food resources in the region and as appropriate in other Member States: crops, stock breeding, fishing, hunting and, for discharges into sea, data on fishing in territorial and extraterritorial waters
 - foodstuff distribution system and particularly the export to other Member States from the regions concerned, in so far as they are related to the risk of exposure from discharges through the significant exposure pathways.

2. The installation

- 2.1. *Brief description and history of the installation to be dismantled*
- 2.2. *Ventilation systems and the treatment of gaseous and airborne wastes*

Description of ventilation, decay, filtration and discharge systems, in normal conditions and in the case of an accident, including flow diagrams
- 2.3. *Liquid waste treatment*

Description of liquid waste treatment facilities, storage capacities and discharge systems, including flow diagrams
- 2.4. *Solid waste treatment*

Description of solid waste treatment facilities and storage capacities
- 2.5. *Containment*

Description including leaktightness specification and testing

- 3. Release from the installation of airborne radioactive effluents in normal conditions**
- 3.1. *Authorisation procedure in force*
- outline of the procedure in force
 - discharge limits and associated requirements envisaged by the authorities, including the assumed radionuclide composition.
- 3.2. *Technical aspects*
- annual discharges foreseen
 - origins of the radioactive effluents, their composition and physico-chemical forms
 - management of these effluents, methods and paths of release.
- 3.3. *Monitoring of discharges*
- sampling, measurement and analysis of discharges, whether undertaken by the operator or by competent authorities
 - 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 parameter values used to calculate the consequences of the releases:
- atmospheric dispersion of the effluents
 - ground deposition and resuspension
 - food chains, inhalation, external exposure, etc.
 - living habits (diet, exposure time, etc.)
 - other parameter values used in the calculations.
- 3.4.2. Evaluation of concentration and exposure levels associated with the discharge limits cited in 3.1:
- annual average concentrations of activity in the atmosphere near the ground and surface contamination levels, for the most exposed areas in the vicinity of the installation and in other Member States
 - for the reference group(s) in other Member States, corresponding annual exposure levels: effective dose to adults, children and infants in other Member States, taking account of all significant exposure pathways.
- 4. Release from the installation of liquid radioactive effluents in normal conditions**
- 4.1. *Authorisation procedure in force*
- outline of the general procedure involved
 - discharge limits and associated requirements envisaged by the authorities, including the assumed radionuclide composition
- 4.2. *Technical aspects*
- annual discharges foreseen
 - origins of the radioactive effluents, their composition and physico-chemical forms
 - management of the effluents, methods and paths of release.
- 4.3. *Monitoring of discharges*
- sampling, measurement and analysis of discharges, whether undertaken by the operator or by competent authorities
 - principal features of monitoring equipment
 - alarm levels, intervention actions (manual and automatic).
- 4.4. *Evaluation of transfer to man*
- 4.4.1. Models and parameter values used to calculate the consequences of the releases:
- aquatic dispersion of the effluents
 - their transfer by sedimentation and ion exchange
 - food chains, inhalation of sea spray, external exposure, etc.
 - living habits (diet, exposure time, etc.)
 - other parameter values used in the calculations.
- 4.4.2. Evaluation of the concentration and exposure levels associated with the discharges cited in 4.1:

- annual average concentrations of activity in surface waters, at the points where such concentrations are highest, in the vicinity of the installation and in other Member States
 - for the reference group(s) in other Member States: effective dose to adults, children and infants, taking account of all significant exposure pathways.
- 5. Disposal from the installation of solid radioactive waste**
- 5.1. *Categories of solid radioactive wastes and estimated amounts*
- 5.2. *Processing and packaging*
- 5.3. *Storage arrangements*
- 5.4. *Radiological risks to the environment, precautions taken*
- 5.5. *Arrangements for the movement and destinations of classified waste transferred off-site*
- 5.6. *Criteria for contaminated materials to be released from the requirements of the Basic Safety Standards, for disposal, recycling or reuse*
- clearance levels established by competent authorities.
- 5.7. *Envisaged types and amounts of released materials.*
- 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 reasons for its (their) choice.
- 6.3. *Evaluation of the radiological consequences of the reference accident(s)*
- 6.3.1. Entailing releases to atmosphere
- assumptions used to calculate the releases to atmosphere
 - release paths; time patterns of the releases
 - amounts and physico-chemical forms of those radionuclides released which are significant from the point of view of health
 - models and parameter values used to calculate for the releases their atmospheric dispersion, ground deposition, resuspension and transfer via food chains and to evaluate the maximum 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 maximum exposure levels: effective dose to adults, children and infants 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 release
 - 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 maximum exposure levels via the significant exposure pathways
 - corresponding maximum exposure levels: effective dose to adults, children and infants living in the vicinity of the plant and in relevant areas of other Member States taking account of all significant exposure pathways.
- 7. Emergency plans; agreements with other Member States**
- In relation to possible radiological emergencies which may affect other Member States in order to facilitate the organisation of radiological protection in these States, Brief description of:
- intervention levels established for different types of countermeasures
 - emergency planning arrangements, including the emergency planning zones adopted for the installation
 - arrangements in place for the early exchange of information with other Member States, bilateral or multilateral agreements on transfrontier information, coordination of emergency plans and their implementation and mutual assistance

- emergency plan testing arrangements with particular reference to the involvement of other Member States.

8. Environmental monitoring

- external radiation monitoring
- monitoring of radioactivity in air, water, soil and the food chains, whether undertaken by the operator or by competent authorities

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

ANNEX 3
‘GENERAL DATA’
applicable to Operation (10)

INTRODUCTION

- general presentation of the plan
 - present stage of project and licensing procedure, envisaged future steps
 - time scale, envisaged starting date, operational period and closure date.
- 1. The site and its surroundings**
- 1.1. *Geographical, topographical and geological features of the site and the region with*
- a map of the region showing the location and geographical co-ordinates (degrees, minutes) of the site
 - the relevant features of the region
 - the location of the repository in relation to such other installations, the discharges from which need to be considered in conjunction with those from the installation in question
 - the location of the site with regard to other Member States giving the distances from frontiers and closest conurbations, together with their populations.
- 1.2. *Seismology*
- the degree of seismic activity in the region; probable maximum seismic activity and designed seismic resistance of the installation.
- 1.3. *Hydrology*
- For an installation situated near to a water body providing a potential contamination pathway to another Member State, a brief description of appropriate hydrological features, extending to the other Member State(s), for example:
- brief description of the path(s), tributaries, estuary, water abstraction, flood plains, etc.
 - average, maximum and minimum water flows and their frequency of occurrence
 - underground water table, levels and flows
 - brief description of the littoral areas
 - direction and force of currents, tides, circulation patterns, both local and regional
 - for geological disposal, relevant details of the hydrogeological regime, including seasonal variations
 - flood risk and protection of the installation.
- 1.4. *Meteorology*
- Local climatology with frequency distributions of:
- wind directions and speeds
 - precipitation intensity and duration
 - for each wind sector, atmospheric dispersion conditions, duration of temperature inversions.
- 1.5. *Natural resources and foodstuffs*
- Brief description of:
- soil characteristics and ecological features of the region
 - water utilisation in the region and as appropriate in neighbouring Member States
 - principal food resources in the region and as appropriate in other Member States : crops, stock breeding, fishing, hunting and, for discharges into sea, data on fishing in territorial and extraterritorial waters
 - foodstuff distribution system and particularly the export to other Member States from the regions concerned, insofar as they are related to the risk of exposure from discharges through the significant exposure pathways.
- 1.6. *Other activities in the vicinity of the site*
- where appropriate, any industrial or military activities, surface and aerial traffic and any other factors which may have an influence on the safety of the installation
 - protection measures.
- 1.7. *Evolution of the site*

Anticipated evolution of the site over the time period considered for assessment of long term impact:

- the natural environment; anticipated changes in geography, topography, geology, hydrology, hydrogeology, meteorology and ecology, glacial effects, and (for coastal sites) sea level changes and coastal erosion
- the human environment; assumptions made on future population patterns, habits and food sources
- sources of information and uncertainties in data.

2. The repository

2.1. *Conceptual approach and design*

- main features of the repository
- location, depth and design in relation to geological strata
- emplacement methods, backfill and sealing methods, timing of backfill and sealing
- contingency plans for dealing with difficulties arising during the constructional/operational phases
- approach to retrievability of waste
- plans for closure (timing and stages)
- plans for management in postclosure period
- outline of regulatory and administrative provisions for closure and postclosure periods.

2.2. *Wastes to be disposed in repository*

- waste inventory; radionuclide concentrations and quantities and restrictions on e.g. substances, concentrations, specific radioisotopes or half-lives
- types of waste packaging
- type and capacity of buffer stores to be used for incoming wastes, storage methods and conditions
- waste monitoring to ensure compliance with regulations and operators local rules.

2.3. *Ventilation systems and the treatment of gaseous and airborne wastes*

Description of ventilation, filtration and discharge systems, in normal conditions and in the case of an accident, including flow diagrams.

2.4. *Liquid waste treatment facilities*

Description of liquid waste treatment facilities, storage capacities and discharge systems, including flow diagrams

3. Release from the installation of airborne radioactive effluents in normal conditions

3.1. *Authorisation procedure in force*

- outline of the procedure in force
- discharge limits and associated requirements envisaged by the authorities, including the assumed radionuclide composition.

3.2. *Technical aspects*

- annual discharges foreseen
- origins of the radioactive effluents, their composition and physicochemical forms
- management of these effluents, methods and paths of release.

3.3. *Monitoring of discharges*

- sampling, measurement and analysis of discharges, whether undertaken by the operator or by competent authorities
- 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 parameter values used to calculate the consequences of the releases:

- atmospheric dispersion of the effluents
- ground deposition and resuspension
- food chains, inhalation, external exposure, etc.

- living habits (diet, exposure time, etc.)
 - other parameter values used in the calculations.
- 3.4.2. Evaluation of concentration and exposure levels associated with the discharge limits cited in 3.1:
- annual average concentrations of activity in the atmosphere near the ground and surface contamination levels, for the most exposed areas in the vicinity of the installation and in other Member States
 - for the reference group(s) in other Member States, corresponding annual exposure levels: effective dose to adults, children and infants, taking account of all significant exposure pathways.
- 3.5. *Radioactive discharges to atmosphere from other installations*
Where appropriate, procedures for coordination with radioactive discharges from other installations, where there may be an additive effect for the exposure levels.
- 4. Release from the installation of liquid radioactive effluents in normal conditions**
- 4.1. *Authorisation procedure in force*
- outline of the general procedure involved
 - discharge limits and associated requirements envisaged by the authorities, including the assumed radionuclide composition.
- 4.2. *Technical aspects*
- annual discharges foreseen
 - origins of these radioactive effluents, their composition and physicochemical forms
 - management of these effluents, methods and paths of release.
- 4.3. *Monitoring of discharges*
- sampling, measurement and analysis of discharges, whether undertaken by the operator or by competent authorities
 - principal features of monitoring equipment
 - alarm levels, intervention actions (manual and automatic).
- 4.4. *Evaluation of transfer to man*
- 4.4.1. Models and parameter values used to calculate the consequences of the releases:
- aquatic dispersion of the effluents
 - their transfer by sedimentation and ion exchange
 - food chains, inhalation of sea spray, external exposure, etc.
 - living habits (diet, exposure time, etc.)
 - exposure levels via the significant exposure pathways
 - other parameter values used in the calculations.
- 4.4.2. Evaluation of the concentration and exposure levels associated with the discharge limits cited in 4.1.:
- annual average concentrations of activity in surface waters, at the points where such concentrations are highest, in the vicinity of the installation and in other Member States
 - for the reference group(s) in other Member States: effective dose to adults, children and infants, taking account of all significant exposure pathways.
- 4.5. *Radioactive discharges into the same receiving waters from 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 from the installation of solid radioactive waste**
- 5.1. *Categories of solid radioactive wastes and estimated amounts*
- 5.2. *Processing and packaging*
- 5.3. *Storage arrangements*
- 5.4. *Radiological risks to the environment, precautions taken*
- 5.5. *Arrangements for the movement and destinations of the different waste categories transferred off-site*
- 5.6. *Criteria for contaminated materials to be released from the requirements of the Basic Safety Standards*
- clearance levels established by competent authorities.
- 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 reasons for its (their) choice.
- 6.3. *Evaluation of the radiological consequences of the reference accidents*
- 6.3.1. *Entailing releases to atmosphere*
- assumptions used to calculate the releases to atmosphere
 - release paths; time patterns of the releases
 - amounts and physico-chemical forms of those radionuclides released which are significant from the point of view of health
 - models and parameter values used to calculate for the releases their atmospheric dispersion, ground deposition, resuspension and transfer via food chains and to evaluate the maximum 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 maximum exposure levels : effective dose to adults, children and infants 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 release
 - 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 maximum exposure levels via the significant exposure pathways
 - corresponding maximum exposure levels: effective dose to adults, children and infants living in the vicinity of the plant and in relevant areas of other Member States taking account of all significant exposure pathways.
7. **Emergency plans; agreements with other member states**
In relation to possible radiological emergencies which may affect other Member States in order to facilitate the organisation of radiological protection in these States, brief description of:
- intervention levels established for different types of countermeasures
 - emergency planning arrangements, including the emergency planning zones adopted for the installation
 - arrangements in place for the early exchange of information with other Member States, bilateral or multilateral agreements on transfrontier information, coordination of emergency plans and their implementation and mutual assistance
 - emergency plan testing arrangements with particular reference to the involvement of other Member States.
8. **Environmental monitoring**
- external radiation monitoring
 - monitoring of radioactivity in air, water, soil and the food chains, whether undertaken by the operator or by competent authorities.
- With reference to 3.1 and 4.1 monitoring programmes as approved by the competent national authorities, organisation, sample forms and frequency, type of monitoring instruments used in normal and accident circumstances; where appropriate, any collaboration arrangements in this respect with neighbouring Member States.
9. **Radiological impact during post-closure phase**
- 9.1. *Philosophy for assuring long term safety*

- dependence placed on respective barriers, redundancy of barriers, in respect of containment of part/all of the radionuclide inventory.
- 9.2. *Acceptance criteria applied to repository*
 - use of quantitative and qualitative indicators of safety
 - use of reference groups
 - time periods considered for application of indicators.
- 9.3. *Techniques used to evaluate long term impact of repository*
 - approach to survey scenarios
 - description of scenario(s) assumed; features, events and processes taken into account, and features, events and processes deliberately omitted
 - methods used for assessment of impact
 - sources of uncertainties and approaches to managing them
 - plans for review of impact or update of safety case during the operational period up to closure.
- 9.4. *Results of assessment of long term impact of repository*
 - main exposure pathways in vicinity of repository and other Member States resulting from normal evolution (see 1.7)
 - estimated amounts, of forms of those nuclides released, estimated rate and timing of release, gas and ground water return times after closure
 - corresponding maximum exposure levels: effective doses and/or estimated risks to adults, children and infants living in relevant areas of other Member States taking account of all significant exposure pathways
 - evaluation of the uncertainties in assessments.
- 9.5. *Authorisation procedure*
 - outline of procedure to be put into place
 - limitations to be incorporated into authorisation.
- 9.6. *Proposals for management of site post-closure*
 - monitoring proposals for site post-closure
 - form and management of records.

ANNEX 4
STANDARD FORM

Applicable to modifications to an existing plan for the disposal of radioactive waste

1. Name and location of the facility concerned

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.....
.....

2. Date of the Commission's Opinion:

3. Brief description of the planned modifications

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.....

4. Authorised discharge limits in the existing plan, and other relevant conditions

4.1. *Gaseous effluents*

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4.2. *Liquid effluents*

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4.3. *Solid waste*

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.....

5. New discharge limits envisaged by the authorities, including modifications in the assumed radionuclide composition, and other relevant conditions

5.1. *Gaseous effluents*

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5.2. *Liquid effluents*

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.....
.....

5.3. *Solid waste*

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.....
.....

6. **Consequences of the new discharge limits and associated requirements (gaseous and/or liquid effluents) in relation to the evaluation of the exposure of the population in other Member States**

7. **Consequences of the modifications in relation to the disposal of solid waste:**

8. **Consequences of the modifications in relation to the reference accident(s) taken into account in the previous opinion:**

9. **In the case of new reference accident(s): description and evaluation of the radiological consequences**

10. **Implications of the modifications in relation to the current emergency plans and the current environmental monitoring:**

The group of experts in Article 37

The group of experts referred to in Article 37 and created pursuant to Article 31 was, originally, the same as the group participating in the development of basic standards and therefore comprised mainly public health experts. However, given the technical problems inherent in examining general data relating to the disposal of radioactive waste from fuel cycle facilities, the Commission decided, very early on, to ask the Scientific and Technical Committee (STC), created pursuant to Article 134 of the Euratom Treaty, and, pursuant to Article 31, responsible for the appointment of experts to the group mentioned in Article 31, to appoint another group of scientific experts for the activities coming under Article 37. Successive enlargements of the Community have led to the breakdown by Member State shown in Annex III. The secretariat of the group of experts is provided by the Radioprotection unit, formerly DG ENV/C4, which was transferred on 16 February 2003 to DG TREN (TREN H.4).

Members are appointed to the group every five years (in the absence of other circumstances), as members are appointed to the STC. Because of the forthcoming enlargement, the mandate of the current members has been extended exceptionally until the end of November 2004.

The chairmanship of the group follows that of the Council. Nevertheless, for a project presented by the Member State holding the Presidency, the chairmanship is assured by an expert from the Member State which held the previous Presidency or is due to hold the following one.

Composition, by Member State, of the group of experts in Article 37 as at 31 December 2003

AUSTRIA	2
BELGIUM	3
DENMARK	2
FINLAND	2
FRANCE	4
GERMANY	4
GREECE	2
IRELAND	2
ITALY	4
LUXEMBOURG	2
NETHERLANDS	3
PORTUGAL	3
SPAIN	4
SWEDEN	2
UK	4
TOTAL	43

ANNEX III

TYPE OF ACTIVITY	NAME, COUNTRY
2 power plants	Chooz B (F)* Civaux (F)
1 research reactor	Garching (D)
8 processing or storage centres for radioactive waste	Konrad (D)* Centraco (F) Loviisa (Fi) Greifswald (D) Gorleben (D) La Hague (F) Dounreay (UK) CEDRA Cadarache (F)
2 fuel manufacturing plants	SMP Sellafield (UK) MDF Sellafield (UK)
2 uranium compound conversion plants	TU 5 (F) Comurhex (F)
1 uranium purification and recuperation plant	IARI Socatri (F)
1 solvent treatment plant	STP Sellafield (UK)
2 research centres	Karlsruhe (D) Rossendorf (D)
19 decommissioning and/or dismantling of nuclear power plants or research reactors	AGR Windscale (UK) Vandellós 1 (ES) Greifswald (D) Rheinsberg (D) Kahl (D) Gundremmingen A (D) Braunschweig (D) Dodewaard (NL) Brennilis (F) Würgassen (D) Astra Seibersdorf (A) Trawsfynydd (UK) Berkeley (UK) DFR Dounreay (UK) Hunterston A (UK) Riso (DK) Hinkley Point A (UK) Mülheim-Kärlich (D) TRIGA HD I et II (D)
1 amendment to a licence for the disposal of radioactive waste from a nuclear power plant	Sizewell A (UK)
13 changes to the site of nuclear power stations (intermediate storage of	Lingen (D) Trillo I (ES)

spent fuel in transport containers)

Grohnde (D)
Unterweser (D)
Brokdorf (D)
Grafenrheinfeld (D)
Brunsbüttel (D)
Neckarwestheim (D)
Isar (D)
Krümmel (D)
Biblis (D)
Gundremmingen II (D)
Philippsburg (D)

* project being examined at the start of the period covered by this report.

ANNEX IV

DETAILS SUBMITTED

Site	Distance from another Member State	Type of activity	Opinion	OJ reference
Salzgitter (D)	220 km (NL)	Facility for the permanent disposal of nuclear waste (Konrad)	Nov. 1994	L 297/39
Chooz B (F)	4 km (B)	Nuclear power plant PWR 2 X 1400 MWe	Dec. 1994	L 352/6
Pierrelatte (F)	175 km (I)	Basic nuclear installation TU 5	May 1995	L 114/28
Windscale (UK)	180 km (IRL)	Decommissioning of AGR reactor	Jan. 1996	L 48/13
Vandellós-Hospitalet de L'Infant (ES)	184 km (F)	Dismantling of the Vandellos 1 nuclear power plant	Sept. 1996	C 293/3
Civaux (F)	420 km (E)	Nuclear power plant PWR 2 X 1400 MWe	Jan. 1997	C 51/5
Sellafield (UK)	180 km (IRL)	MOX fuel element manufacturing plant (SMP)	Feb. 1997	C 68/4
Marcoule (F)	180 km (I)	CENTRACO : nuclear centre for processing and conditioning low-level radioactive waste	Sept. 1997	C 291/8

Sellafield (UK)	180 km (IRL)	Solvent treatment plant (STP)	Sept. 1997	C 291/9
Loviisa (SF)	380 km (S)	Facility for the permanent disposal of low and intermediate level nuclear waste	Dec. 1997	C 385/2
Greifswald (D)	120 km (DK)	Decommissioning and dismantling of the Greifswald nuclear power plant (KGR)	March 1999	C 97/10
Greifswald (D)	120 km (DK)	Interim storage facility (ZLN)	March 1999	C 97/9
Rheinsberg (D)	180 km (DK)	Decommissioning and dismantling of the Rheinsberg nuclear power plant (KKR)	March 1999	C 97/11
Gorleben (D)	170 km (DK)	Gorleben Pilot Conditioning Plant (PKA)	Nov. 1999	C 224/5
Kahl (D)	140 km (F)	Decommissioning of the Kahl experimental nuclear power plant	Nov. 1999	C 339/6
Gundremmingen (D)	100 km (A)	Decommissioning of the Gundremmingen nuclear power plant (KRB A)	Jan. 2000	C 37/9
Braunschweig (D)	230 km (NL)	Decommissioning and dismantling of the Braunschweig research and measurement reactor (FMRB)	July 2000	C 223/2
Dodewaard (NL)	25 km (D)	Decommissioning and care and maintenance of the Dodewaard nuclear power plant	June 2000	C 186/5
Karlsruhe (D)	20,5 km (F)	Karlsruhe research centre (FzK)	July 2000	C 223/3
La Hague (F)	20 km (RU)	Centre de la Manche radioactive waste storage centre	Oct. 2000	C 297/7

Brennilis (F)	180 km (RU)	Partial dismantling of the nuclear power plant on the Monts d'Arrée site	Dec. 2000	C 11/5 (2001)
Dounreay (UK)	370 km (DK)	Liquid metal disposal plant (LMDP) and Waste Receipt Assay Characterisation and Supercompaction plant (WRACS) on the Dounreay site	Dec. 2000	C 20/4 (2001)
Würgassen (D)	220 km (NL)	Dismantling of the Würgassen nuclear power plant	Feb. 2001	C 72/2
Garching (D)	70 km (A)	High neutron flux research reactor (FRM-II)	March 2001	C 117/2
Rosendorf (D)	260 km (A)	Rosendorf research site	June 2001	C 204/9
Pierrelatte (F)	170 km (I)	Comurhex factory	Sept. 2001	C 281/8
Lingen (D)	19 km (NL)	Modifications to the Emsland nuclear power plant (KKE) – Interim storage for the plant's irradiated fuel	Oct. 2001	C 319/14
Seibersdorf (A)	250 km (D)	Decommissioning and dismantling of the ASTRA research reactor	Dec. 2001	C 262/4
Trillo (ES)	280 km (F)	Modifications to the Trillo I nuclear power plant - Interim storage for the plant's irradiated fuel	Jan. 2002	C 32/21
Sizewell (UK)	135 km (F)	Sizewell A nuclear power plant – amendment of the discharge authorisation	Jan. 2002	C 32/20
Trawsfynydd (UK)	140 km (IRL)	Dismantling of the Trawsfynydd nuclear power	April 2002	C 86/10

		plant		
Berkeley (UK)	220 km (F)	Dismantling of the Berkeley nuclear power plant	April 2002	C 86/11
Bollène (F)	170 km (I)	Socatri decontamination and uranium recovery plant (IARU) on the Tricastin site	April 2002	C 99/5
Grohnde (D)	160 km (NL)	Modifications at the site of the Grohnde nuclear power plant (KWG) – Interim storage for the plant's irradiated fuel	April 2002	C 99/5
Unterweser (D)	85 km (NL)	Modifications at the site of the Unterweser nuclear power plant (KKU) – Interim storage for the plant's irradiated fuel	April 2002	C 99/6
Brokdorf (D)	110 km (DK)	Modifications at the site of the Brokdorf nuclear power plant (KBR) - Interim storage for the plant's irradiated fuel	April 2002	C 105/5
Grafenrheinfeld (D)	180 km (F)	Modifications at the site of the Grafenrheinfeld nuclear power plant (KKG) – Interim storage for the plant's irradiated fuel	June 2002	C 151/12
Brunsbüttel (D)	102 km (DK)	Modifications at the site of the Brunsbüttel nuclear power plant (KKB) – Interim storage for the plant's irradiated fuel	Aug. 2002	C 199/3
Neckarwestheim (D)	70 km (F)	Modifications at the site of the Neckarwestheim nuclear power plant (GKN) – Interim storage for the plant's irradiated fuel	Aug. 2002	C 208/3
Isar (D)	167 km (I)	Modifications at the site of the Isar nuclear power station (KKI) – Interim storage for the	Aug. 2002	C 208/2

		plant's irradiated fuel		
Krümmel (D)	150 km (DK)	Modifications at the site of the Krümmel nuclear power plant (KKK) – Interim storage for the plant's irradiated fuel	Aug. 2002	C 199/2
Dounreay (UK)	370 km (DK)	Dismantling of the Dounreay Fast Reactor (UKAEA)	Aug. 2002	C 208/2
Hunterston (UK)	140 km (IRL)	Dismantling of the Hunterston A nuclear power plant	Oct. 2002	C 249/21
Sellafield (UK)	180 km (IRL)	MOX demonstration facility at Sellafield	Nov. 2002	C 292/7
Biblis (D)	85 km (F)	Modifications at the site of the Biblis nuclear power plant – Interim storage for the plant's irradiated fuel	Nov. 2002	C 297/2
Gundremmingen (D)	105 km (A)	Modifications at the site of the Gundremmingen II nuclear power plant (KRB II) – Interim storage for the plant's irradiated fuel	Jan. 2003	C 26/13
Cadarache (F)	110 km (I)	Radioactive waste conditioning and storage facility (CEDRA)	July 2003	C 182/24
Philippsburg (D)	35 km (F)	Modifications at the site of the Philippsburg nuclear power plant (KKP) – Interim storage for the plant's irradiated fuel	Oct. 2003	C 238/2
Riso (DK)	63 km (S)	Dismantling of nuclear installations including research reactors and the hot cell facility at the Riso National Laboratory	Oct. 2003	C 253/9
Hinkley Point (UK)	180 km (F)	Decommissioning of Hinkley Point A	Oct. 2003	C 253/9

		nuclear power plant		
Mülheim-Kärlich (D)	90 km (B)	Decommissioning and dismantling of the Mülheim-Kärlich nuclear power plant and storage of radioactive waste on site	Oct. 2003	C 253/8
Heidelberg (D)	80 km (F)	Decommissioning and dismantling of the TRIGA HD I and II research reactors	Dec. 2003	C 300/8

Specific points arising from the opinions

1. NORMAL CONDITIONS OF OPERATION

All the opinions stated that “*disposals of radioactive liquid and gaseous effluent do not cause an exposure of the population in other Member States that is significant from the point of view of health*”.

Regarding the Chooz B power station, the Commission “*calls on the French Government to examine the direct application of the ALARA principle⁹ during the procedure for establishing numerical limits for disposal in licences for the disposal of liquid and gaseous waste*”. In the same context, the Commission “*welcomes the bilateral dialogue between the French and Belgian authorities regarding the disposal of liquid waste which, according to the French Government, should lead to the conclusion of an agreement on disposal limits, pursuant to the decision of the Moselle Commission of 27 March 1986*”.

In its opinions, in particular in the context of projects to dismantle nuclear plants and research reactors, the Commission has stated that “*non-radioactive solid waste or residual materials released from regulatory control will be released for disposal as conventional waste or for reuse or recycling, in all cases complying with the criteria laid down in the Basic Safety Standards (Directive 96/29/EURATOM)*”. Concerning the dismantling of Vandellós 1 and AGR Windscale, the Commission has called on the competent authorities to inform it of the quantities and types of material to be recycled.

Regarding the decommissioning and dismantling of the Greifswald plant and the use of the temporary storage facility on the same site, the Commission stated that “*The general data do not contain information with regard to a programme for radioactivity monitoring in the marine environment but it is understood that such monitoring is carried out in the Baltic Sea*” and recommended “*that this be part of the statutory federal requirements and that the results of such monitoring be made available to the Commission, to neighbouring Member States and to Poland*”.

Regarding the decommissioning and dismantling of the ASTRA research reactor, the Commission stated that “*radioactive waste ...will be stored on site until 2012. The Experts note that there is as yet no solution for the final storage of this radioactive waste.*”. It added that “*The release of*

⁹ In this case, the application of the ALARA principle means that the waste should be kept to a level which is as low as reasonably possible.

solid radioactive material from dismantling of the ASTRA research reactor for recycling or reuse is controlled in such a way that it will not give rise to any significant effect, from the point of view of health, on the population of another Member State. The Experts note however that clearance levels should be set in accordance with Community guidance ensuring compliance with the clearance criteria in the Basic Safety Standards (Directive 96/29/EURATOM)”.

Concerning the partial dismantling of the Monts d'Arrée reactor, the Commission stated that *“The experts recommend that checks on conventional waste that are carried out as a precautionary measure to confirm the absence of contamination be such that at the same time compliance with the clearance criteria laid down in the basic standards Directive is ensured”.*

Concerning the decommissioning and deferment period of the Dodewaard Nuclear power plant, the Commission noted that *“The general data do not contain information with regard to the potential radioactive contamination of foodstuffs grown in the neighbourhood of the facility”* and recommended *“that relevant foodstuffs be included in the environmental monitoring programme.”*

With regard to the Loviisa facility for the final storage of low and intermediate level nuclear waste, the Commission stated that *“the measures that must be taken for the closure of the facility and the natural characteristics of the site allow us to assume, with a high level of certainty, that the conclusions expressed for the operational period will remain valid in the long term after closure of the storage facility”* and noted that *“the environmental surveillance conditions for the period after the closure of the Loviisa plan have still to be defined, so as to permit the periodical evaluation of the level of radioactivity to which the population is exposed”.*

2. ACCIDENTS

All the opinions concluded that *“in the case of the discharge of radioactive waste following an accident of the type and magnitude considered in the general data, the doses liable to be received by the population in other Member States would not be significant from a public health perspective”.*

Concerning the nuclear reactor Chooz B, the Commission took the view that *“certain more serious accidents involving the discharge of waste into the atmosphere or the Meuse could expose the population to levels calling for counter-measures by the competent authorities. In such an event, as the Belgian border is only around 3 km distant, the rapid implementation of coordinated emergency Franco-Belgian plans would be very important”* and recommended *“that, in the context of the dialogue already started between the Belgian and the French authorities, the existing measures be stepped up to ensure that the Belgian authorities concerned receive the information needed to protect the public as*

comprehensively and rapidly as the French authorities". Finally, the Commission stated that "specific measures of this kind would complement the existing bilateral arrangements with Belgium, Luxembourg and Germany and the arrangements at Community level (pursuant to the Council Decision of December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency) and world level (in the context of the Vienna Convention on Early Notification of a Nuclear Accident administered by the IAEA)".

With regard to the Civaux plant, the Commission stated that *"the Community provisions established pursuant to the Council Decision of December 1987 on the rapid exchange of information in the event of a radiological emergency, and the bilateral agreements concluded between France and a certain number of neighbouring States consider hypothetical accidents with more serious radiological consequences than those considered in the general data"* and recommend that *"France examine the potential benefits of concluding such agreements with other Member States"*.

Overview of infringements of Article 37

1. SOME FIGURES

- Since June 1994, twelve infringement procedures relating to Article 37 of the Euratom Treaty have been brought against various Member States. They related in particular to certain Member States with a large nuclear industry.
- Five of these procedures have not yet been concluded. Of these, three have not yet passed the formal notice stage, whilst, of the two others, the Commission has agreed that one be submitted to the Court, and the other is already pending before the Court.
- The seven cases that have been closed have been so for different reasons. Four cases were closed because, in the light of the information provided by the Member States concerned, no infringement of Article 37 could be demonstrated. Of these four situations, two related to disposal projects that did not justify a case being brought under Article 37. The two others related to the non-submission of general data relating to dismantling operations. The study and implementation of these projects were postponed, thus removing the infringement. One of these two cases was closed at a very late stage in the procedure following discontinuance before the Court of Justice. The infringement had become baseless, thus preventing the Court from deciding on the conflict of interpretation between the Commission and the Member State concerned. This conflict reappeared in subsequent cases and persists to this day (applicability of Article 37 to a military installation, see below).

The three other cases were settled by the submission of the general data, which satisfied the Commission, by the Member States concerned.

- Most of these cases (eight of them) were initiated by the Commission. Only four of them were the result of a complaint.
- In all these cases, the infringement allegedly committed by the Member State was a failure to implement Article 37 rather than an incorrect or partial implementation thereof.

These figures deserve some explanation :

First of all, the figure of twelve infringement procedures may seem high, given that the Commission recommendations on the implementation of Article 37 are regularly and concertedly updated and that there is a reasonable consensus among the Member States and the Commission regarding its interpretation.

However, this figure is small when compared with the number of submissions made by the Member States over the same period without it being necessary to open infringement proceedings.

Moreover, when the figures are examined more closely, it can be seen that the infringement procedures that have now been settled were rarely taken all the way. In fact, most of them were settled in dialogue between the Commission and the Member State concerned, either because the information provided was not enough for the Commission to demonstrate an infringement or because the Member State had no other option but to accept the Commission's opinion in the presence of a specific infringement.

The three cases which the Commission took to the Court of Justice confirm this analysis. These three cases, which raise the issue of the applicability of Chapter 3 of Title II of the Euratom Treaty to military installations (see below), point to an ongoing conflict of interpretation which the parties are fully aware can be decided only by the Court of Justice.

It should be noted that the infringements never relate to a partial or incorrect implementation of Article 37 but rather to the need to apply it or not to a particular case. Thus, when it is admitted that a new plan to dispose of waste falls within the scope of Article 37, the competent authorities of the Member States carry out their obligations and the associated procedure without further ado.

2. CONTENT OF THE INFRINGEMENTS

Before tackling the questions raised by the infringement procedures, some preliminary remarks on the legal basis will give an overview of the context of the debate.

2.1. General observations on the legal basis:

Article 37 has three main features: it is broad in terms of its scope, relatively precise in terms of the required procedure and vague when it comes to the content of the general data to be provided.

Commission recommendations on the implementation of Article 37 have compensated for any difficulties in interpretation. These recommendations, adopted one after the other, have each time deepened the understanding of the interpretation of this Article.

In this context, and even though their non-binding nature means that they have secondary importance in any infringement procedure, these recommendations are important for interpreting the Article.

This tendency was confirmed by the latest recommendation, which stuck much closer to the spirit and the letter of Article 37 than previous recommendations.

The importance of the recommendations is also obvious when it comes to dealing with questions of a more technical nature. Conversely, and logically, recommendations have no weight when it comes to disputes between a Member State and the Commission relating to more

fundamental questions, such as the applicability of the Treaty to certain installations.

2.2. Questions raised in the context of infringement procedures:

Before examining in detail the arguments given by the various Member States involved in infringement procedures, it should be underlined that a particular interpretation held by a Member State is not necessarily shared by the others.

Similarly, a particular approach favoured by a Member State in a given case will not necessarily have been invoked recurrently in another case involving the same Member State.

Finally, several of the arguments below have often been invoked simultaneously for a given infringement.

With these reservations, the arguments developed by the Member States concerned and the associated debates focus on the following points:

- *Impact, nature and content of the disposal plans:*
 - The amount of disposal planned is so small that its future impact on the population of another Member State is considered non-existent by the State concerned and, in any case, negligible in radioprotection terms:

This approach is very rarely chosen by the Member States as their main argument as, under Article 37, it is for the Commission, with the aid of the group of experts, to determine whether the future disposal plan is liable or not to result in the contamination of another Member State.

However, it is often used as a secondary argument by Member States wishing to justify their position. The Commission's approach is always to point out that, if the general data are not submitted, the obligations laid down in Article 37 become inoperative, and the Commission cannot assume its responsibilities as a consequence. This obligation to respond positively to any request from the Commission based on the content of Article 37 is also included in Recommendation 99/829/Euratom (see points 4.1. (b) and 4.2.).

- The disposal plan is in fact an amended version of a disposal licence already submitted under Article 37 and therefore has no impact on the exposure of the population of another Member State:

This argument has been invoked once, when Recommendation 91/4/Euratom was still applicable (point 6 of the Recommendation). The wording of this Recommendation was rather vague and recognised a margin of interpretation for the

Member States. Today, the wording of Recommendation 99/829/Euratom is clearer and more restrictive as it obliges the Member State concerned to submit at least a minimal amount of information (point 4.1(a) of the Recommendation).

- Solid waste is not covered by Article 37 and does not therefore need to be included in the general data sent to the Commission:

This isolated approach, based on just one of the language versions of Article 37, is at odds with the underlying logic of this Article. Failure to submit comprehensive information would prevent a serious analysis and would therefore prevent the objective of Article 37 being achieved. It should, however, be underlined that this is more a position of principle which has never led to a lasting conflict with the Commission.

- *Concerning the nature of the activity in question:*

- The disposal plan may be associated with one of the activities indicated in the Recommendation but not the one chosen by the Commission which is considered disputable:

In this kind of approach, the underlying question relates to the obligations on the Member State concerned with regard to a given project (content of the general data to be provided and the procedure to be followed in certain situations). In fact, association with a particular activity rather than with another will not always be neutral with regard to the extent of the Member State's obligations.

- The disposal plan cannot be linked to any one of the activities mentioned in the Recommendation, given the nature of the installation:

This argument, which was invoked just once, was based on Recommendation 91/4/Euratom. To this end, a distinction was drawn between production and research installations, with the latter considered to be not covered.

- The disposal plan is excluded from the scope of Article 37 and, more broadly, the Treaty itself, as it concerns a military installation:

This argument, which has been invoked several times, will be examined in the context of the three cases submitted by the Commission to the Court of Justice. Without prejudice to the Court's ruling, it should be noted that the Commission considers that protecting the health of the population is an unconditional objective that covers "the dangers arising from ionizing radiations" (Article 30 of the Euratom Treaty) regardless of the source of these radiations.