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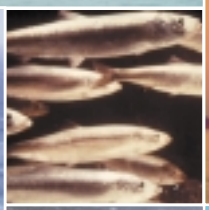
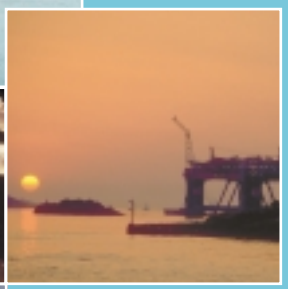
Annual Report 2000 - 2001





Marine Biodiversity

Hazardous Substances

Eutrophication

Radioactive Substances

Offshore Industry

OSPAR Commission

for the Protection of the Marine Environment

of the North-East Atlantic

Annual Report 2000 - 2001

Annual Report 2000 - 2001

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More information about OSPAR
The Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention") was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Union and Spain.

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Annual Report of the OSPAR Commission, 2000 – 2001

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chapter 1

The OSPAR Commission

1. The OSPAR Commission ("OSPAR") is the means by which the countries of the North-East Atlantic cooperate in protecting their seas. It was created by the Convention for the Protection of the Marine Environment of the North-East Atlantic, which was opened for signature in Paris on 22 September, 1992, and entered into force on 25 March, 1998.

2. This Annual Report for the year 1 July 2000 – 30 June 2001 gives an overview of the way in which this cooperation has been organised, the progress that has been made, and the way in which future work will be approached.

The origins of the Commission

3. OSPAR is the latest stage in developments which began in the late 1960s.

The Oslo Convention

4. In 1967, the oil tanker *Torrey Canyon* ran aground on the Seven Stones reef to the south-west of England. This led to the release of 117,000 tonnes of oil into the sea, with disastrous consequences for the environment. These events proved to be a pivotal point for international cooperation to combat marine pollution in the North-East Atlantic. It ultimately stimulated the signature, in 1969, of the Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil (the "Bonn Agreement").

5. At the same time, concern about the effects of chemicals on the environment was leading to stricter controls over chemical waste. One reaction was the rapid growth in the dumping of such waste at sea. In 1968 the International Council for the Exploration of the Sea (ICES) drew attention to the vast quantities of waste which were being disposed of in this way.

6. Several initiatives by Governments resulted. The Nordic States met in January 1971, and agreed both to adopt bans on dumping toxic and persistent substances from their own ships, and to set up an international conference to consider an international agreement on the subject. The German Government was considering a similar initiative. Preparations were in hand for the 1972 United Nations Stockholm Conference on the Human Environment, and a meeting was organised in London in June 1971 to prepare material for that conference on the issue of dumping at sea.

7. Events then precipitated international action. A Dutch ship, the *Stella Maris*, sailed from the port of Rotterdam on 16 July 1971 to dump 650 tonnes of chlorinated chemical waste in the North Sea. The combined weight of public opinion and the views of the Governments of many North-East Atlantic countries obliged her to return to port on 25 July without carrying out the planned dumping. While this was happening, a meeting between Belgium, France, the Federal Republic of Germany, the Netherlands and the United Kingdom started on 23 July in Paris, as a result of the London meeting in June, to develop a common position on the issue of dumping. The coincidence of the events led to agreement to develop international rules to control dumping at sea. In cooperation with the Nordic States, the Oslo Convention was negotiated and signed on 15 February 1972 - within eight months of these events. It entered into force on 6 April 1974.

The Paris Convention

8. In June 1972, the UN Stockholm Conference on the Human Environment adopted a declaration setting out the Stockholm Principles. Principle 7 states that "States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea."

9. To give effect to this principle for the North-East Atlantic, the French Government organised a diplomatic conference in Paris in December 1972. There was ready agreement to draw up an international agreement dealing with the prevention of marine pollution by discharges of dangerous substances from land-based sources, watercourses or pipelines, but the details proved more complex to resolve than those of the Oslo Convention. Nevertheless, by June 1974, all the details

had been resolved and the Paris Convention for the Prevention of Marine Pollution from Land-Based Sources was opened for signature. It entered into force on 6 May 1978.

The Oslo and Paris Commissions

10. The Oslo Commission was established to administer the Oslo Convention. Initially, the Commission's task was to regulate and control the dumping at sea of industrial wastes, sewage sludge and dredged material and the incineration at sea of liquid industrial wastes. The dumping of industrial wastes and sewage sludge and incineration at sea have now been phased out.

11. The Paris Commission was established to administer the Paris Convention. The Commission regulated and controlled inputs of substances and energy to the sea from land-based sources (via the atmosphere, rivers, or direct discharges) and also from offshore installations. The Commission was involved in a thorough review of the use and manufacture of various substances in order to establish the best environmental practice or best available techniques to prevent pollution. It also embarked on a series of measures to protect parts of the Convention area adversely affected by nutrient enrichment ("eutrophication"), which has been linked to accelerated growth of algae, blooms of toxic algae and oxygen depletion with consequent deaths of benthic organisms and fish. From the start, the Oslo Commission and the Paris Commission worked together, and set up a common secretariat, based in London.

The OSPAR Convention

12. With the approach of the twentieth anniversary of the Oslo Convention, there was general agreement that the Oslo and Paris Conventions needed to be updated, to take account of the developments in thinking about the protection of the marine environment. Accordingly, a review was put in hand to update and consolidate the conventions.

13. This review culminated in a meeting of the Oslo and Paris Commissions at Ministerial level in Paris on 21-22 September 1992. This meeting was attended by Ministers responsible for the marine environment in the 14 States which were Contracting Parties or signatories to one or both of the Oslo and Paris Conventions, by Switzerland and by the relevant member of the Commission of the European Communities. The most important outcome of this Ministerial meeting was the adoption of a new Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention"), together with a Final Declaration and an Action Plan to guide the future work of the Commissions.

14. The main themes of the new convention are set out in its recitals: the importance of the marine environment, the need for international cooperation to protect it, the developments in international law that led to Part XII (Protection and Preservation of the Marine Environment) of the UN Convention on the Law of the Sea, the need for more stringent measures in a regional context than are provided in conventions with a global scope, the consequent need for a new convention which addresses all sources of pollution of the marine environment and the adverse effects of human activities upon it.

15. The new Convention, amongst other things:

a. sets out a general obligation, in accordance with the detailed provisions of the Convention, to take all possible steps to prevent and eliminate pollution, to take the necessary measures to protect the North-East Atlantic against the adverse effects of human activities so as to safeguard human health and conserve marine ecosystems and, when practicable, to restore marine areas which have been adversely affected;

b. requires the application of:

   (i) the precautionary principle;

   (ii) the polluter pays principle;

   (iii) best available techniques (BAT) and best environmental practice (BEP), including clean technology;

c. provides for the Commission established by the OSPAR Convention to adopt binding decisions;

d. provides for the participation of observers, including non-governmental organisations, in the work of the Commission;

e. establishes rights of access to information about the maritime area of the Convention; and

f. establishes the OSPAR Commission, as successor to the Oslo and Paris Commissions, to administer the Convention and to develop policy and international agreements in this field; the Commission is supported by an international secretariat based in London.

16. The most significant development in the new convention was the scope it provided for new initiatives. The four annexes to the convention cover the achievements under the Oslo and Paris Conventions:

a. Annex I: Prevention and elimination of pollution from land-based sources;

b. Annex II: Prevention and elimination of pollution by dumping or incineration;

c. Annex III: Prevention and elimination of pollution from offshore sources; and

d. Annex IV: Assessment of the quality of the marine environment.

New annexes and appendices can, however, be adopted to address problems in new fields. Nevertheless, the convention makes clear that questions related to the management of fisheries are appropriately regulated under international and regional agreements dealing specifically with such questions, and not under the OSPAR Convention.

17. Although the OSPAR Convention did not finally enter into force until early 1998, for all practical purposes, the Oslo and Paris Commissions have worked as one entity since 1992.

The Sintra Ministerial Meeting

18. To mark the entry into force on 25 March 1998 of the new Convention, a Ministerial Meeting of the OSPAR Commission was held in Sintra, Portugal, in July 1998. This meeting adopted a new Annex V to the convention, on the protection and conservation of the ecosystems and biological diversity of the maritime area.

19. Subject to special provisions to maintain the principle that the convention does not deal with questions relating to the management of fisheries and to deal with the special features of maritime transport, this annex extends the competence of OSPAR to adopt programmes and measures to protect and conserve the ecosystems and biological diversity of the maritime area, to restore, where practicable, marine areas which have been adversely affected and to control relevant human activities.

20. In addition, the Sintra Ministerial Meeting adopted long-term strategies to guide the work of OSPAR. These are:

a. the OSPAR Strategy on the protection and conservation of ecosystems and biological diversity of the maritime area;

b. the OSPAR Strategy with regard to hazardous substances;

c. the OSPAR Strategy with regard to radioactive substances;

d. the OSPAR Strategy to combat eutrophication.

In 1999, in fulfilment of a commitment made at the Sintra meeting, the Commission further adopted:

e. the OSPAR Strategy on Environmental Goals and Management Mechanisms for Offshore Activities.

21. The outcome of the Sintra Ministerial meeting was summarised in the Sintra Statement, which is set out at Annex 1.

chapter 2

Hazardous Substances

The Strategy

22. The OSPAR Strategy with regard to Hazardous Substances sets the objective of preventing pollution of the maritime area by continuously reducing discharges, emissions and losses of hazardous substances, with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.

23. As its timeframe, the Strategy further declares that the Commission will implement this strategy progressively by making every endeavour to move towards the target of the cessation of discharges, emissions and losses of hazardous substances by the year 2020.

24. The Strategy sets out a definition of hazardous substances, and provides that OSPAR will complete the development of a dynamic selection and prioritisation mechanism to select the hazardous substances to be given priority in its work. The implementation of the Strategy will concentrate on substances of the highest concern to the marine environment and make best use of resources. Effective action is to be taken when there are reasonable grounds for concern that hazardous substances introduced into the marine environment, or which reach or could reach the marine environment, may bring about hazards to human health, harm living and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects.

The Quality Status Report 2000

25. The main conclusions of the Quality Status Report 2000 (see chapter 7) on the identification of priorities for action on hazardous substances were that:

a. with sufficient resources to underpin the ambitious programme of work it implies, the OSPAR Strategy with regard to Hazardous Substances will provide a comprehensive and coherent approach to:
   i. identifying the hazardous substances of concern in relation to the OSPAR maritime area, ranking the priorities for action on them;
   ii. identifying their sources and the pathways by which they reach the marine environment; and
   iii. developing programmes and measures to achieve the aims of the strategy where adequate action is not being taken elsewhere;

b. it will be important to ensure that there is a corresponding effort in observing developments in the marine environment of the maritime area and in inputs to it, in order to chart the progress of the Strategy;

c. action was needed on certain specific points:
   i. in relation to antifouling treatments, the measures in PARCOM Recommendation 87/1 (on the use of tributyl-tin compounds) and PARCOM Recommendation 88/1 (on docking facilities) should be completed with the development of a measure on BAT for the disposal of organotin wastes resulting from the removal of such antifouling treatments from ships; and monitoring should be urgently undertaken on the impacts of alternatives to organotin antifouling treatments (for example, copper and booster biocides);
   ii. a review of action at the national level to implement PARCOM Decision 90/3 (emissions from mercury-cell chlor-alkali plants) and, if need be, OSPAR measures to facilitate this implementation;
   iii. an assessment of the implementation of PARCOM Decision 92/3 (phasing out of PCBs); and

iv. carrying forward work under the UNECE-LRTAP Convention on Persistent Organic Pollutants and completing the negotiations on a global convention on this topic under the aegis of the UN Environment Programme.

Summary of Progress 1998 - 2000

Identifying Chemicals for Priority Action

26. The Strategy, as adopted, contained both an initial version of the OSPAR List of Chemicals for Priority Action and a list of candidate substances for selection, assessment and prioritisation. Work was put in hand to review the candidate substances and other relevant lists of chemicals in order to review the List of Chemicals for Priority Action.

27. The first step was making an initial selection of the substances to be studied in more detail (see box "Initial Selection" for the procedure adopted).

INITIAL SELECTION

The initial selection was established in three complementary ways:

The 246 substances (or groups of substances) in the List of Candidate Substances were examined against a set of cut-off values for persistence, liability to bioaccumulate and toxicity and ("PBT criteria"), which are part of the Strategy's definition of hazardous substances. ("Bioaccumulation" is the development of increasingly high concentrations of a substance as you go higher in the food web, as the substance is taken in through food and not broken down or excreted).

All substances in the Nordic Substance Database (about 18 000 substances), the Danish Miljøstyrelsen QSAR database (more than 166 000 substances) and the database of the Netherlands's BKH/Haskoning report (about 180 000 substances) were examined against the PBT cut-off values.

A "safety-net" procedure was applied to identify other substances (or groups of substances) which do not fulfil all the PBT criteria, but which give rise to an equivalent level of concern. Proposals from Contracting Parties were examined by an informal group of experts and, if judged appropriate, included in the initial selection of substances.

The results of this initial selection of substances were examined by the experts in order to check the plausibility and consistency of the substance-specific data, and to exclude those substances that had been incorrectly selected.

The result was a list of about 400 substances of possible concern - that is, a list of those substances which have to be treated as hazardous for the purposes of the Strategy. By its nature, this list is not final. It will be revisited from time to time as further information becomes available, and additions or deletions may be made.

In order to produce a realistic list for priority action, substances were flagged up if they had intrinsic properties similar to Persistent Organic Pollutants (POPs) or were suspected of being endocrine disruptors (and therefore clearly give rise to a high level of concern) or were already being addressed in other forums (and therefore OSPAR should consider whether to await the outcome in that forum, before deciding whether to initiate specific OSPAR action).

28. These substances were then ranked to establish which should be selected for priority action (see box “Ranking” for the procedure adopted. On the basis of this ranking and recommendations from the group of experts, OSPAR 2000 agreed that 7 substances of very high concern (having characteristics similar to those of Persistent Organic Pollutants, or meeting the most stringent cut-off criteria for persistence, bioaccumulation and toxicity) and 5 substances meeting less stringent criteria, but where there was clear evidence of use or environmental exposure, should be added to the OSPAR List of Chemicals for Priority Action.

RANKING

To rank the substances (or group of substances) in this initial selection, they were characterised by their production volumes, use patterns and/or measured occurrence in the environment. The level of potential concern with regard to each substance was indicated by:

(1) an effect score (relative toxicity and liability to bioaccumulate - the effect score was calculated by considering direct and indirect effects on aquatic organisms (toxicity and bioaccumulation potential) as well as indirect effects on humans via ingestion of contaminated food (carcinogenicity, mutagenicity and adverse effects on reproduction as well as chronic effects resulting from oral uptake));

(2) an exposure score (relative level of predicted or measured occurrence in the environment - an environmental exposure volume was calculated by using a modified version of the European Risk Ranking Method (EURAM) algorithm; subsequently, this environmental exposure volume was scaled from >0 to 10 in order to obtain the exposure score).

The mathematical product of the effect exposure scores is an indicator for the relative risk from each substance. The calculated results were then reviewed by the group of experts. The ranking algorithms were based on those which had been established for the Combined Monitoring-based and Modelling-based Priority Setting (COMMPS) procedure in the context of the Water Framework Directive of the EC. Some algorithms or weighting factors were modified in order to render them more suitable for the marine environment. Conservative default values were used in cases where certain substance-specific data were not known.

The substance-specific data needed for the ranking were taken from a variety of sources such as (1) the IUCLID database maintained by the European Chemicals Bureau, (2) the Nordic Product Register, (3) data collected, assessed and used in the context of the COMMPS-ranking, (4) the Danish QSAR Database. In general, the highest-quality data were chosen in cases where more than one data set for a substance was available.

Because of commercial confidentiality, the assessment of the outcome of the ranking and the data used could only be undertaken and validated by a limited number of experts.

Measures on specific substances or sectors

29. Work on specific substances or sectors is based upon:

    a. developing Background Documents which describe the sources of hazardous substances and their pathways to the marine environment, quantify sources and assess the scale of the problems, assess what needs to be achieved, and develop options for measures;
    b. agreeing descriptions of Best Available Techniques (BAT) and Best Environmental Practice (BEP);
    c. adopting appropriate measures in the form of (binding) Decisions, (non-binding) Recommendations, and other agreements;
    d. reviewing the measures adopted and assessing new monitoring information.

30. OSPAR 1999 addressed the Emulsion Poly-Vinyl Chloride (PVC) industry, with a description of BAT and a Recommendation (1999/1) on the application of BAT, and published a background document on the use of integrated crop management to help reduce inputs of agricultural pesticides to the marine environment.

31. OSPAR 2000 started the process of dealing with the chemicals identified for priority action. Background Documents on Musk Xylene, Organic Tin Compounds and Mercury were agreed, and appropriate actions initiated on these substances in the light of them.

32. OSPAR 2000 also adopted Descriptions of and Recommendations on the Best Environmental Practice (BEP) for the Reduction of Agricultural Pesticides to the Marine Environment through the use of integrated crop management techniques (OSPAR Recommendation 2000/1), on Best Environmental Practice (BEP) for the Use of Pesticides on

Amenity Areas (Recommendation 2000/2), and a Recommendation for Emission and Discharge Limit Values for the Manufacture of Emulsion PVC from Vinyl Chloride Monomer (OSPAR Recommendation 2000/3).

Progress in 2000 - 2001 on Programmes and Measures

Identifying Chemicals for Priority Action

33. The work of reviewing the OSPAR List of Chemicals for Priority Action continued. On the basis of further work by the group of experts, OSPAR 2001 added 16 substances to the list. The current list is attached at Annex 2. Fourteen of these substances were subject to the special arrangements described in paragraphs 37 - 38. The other two (ethenyl ester of neodecanoic acid and triphenyl phosphine) would be thoroughly investigated in the same way as the other substances on this list.

34. OSPAR 2001 also agreed arrangements for publishing the OSPAR draft List of Substances of Possible Concern - that is, the draft list of substances, resulting from the initial selection exercise described above, on which the Strategy with Regard to Hazardous Substances will require the consideration of some form of action - together with the supporting data sheets.

35. OSPAR 2001, in addition, endorsed the development of a joint approach to the assessment of environmental risks to the marine environment, in cooperation with the European Commission.

36. OSPAR 2001 considered that the appropriate priority action for substances on the OSPAR List of Chemicals for Priority Action will vary according to the circumstances. For chemicals where there is no production interest in the OSPAR States or in the European Community, the appropriate OSPAR actions are to monitor for the presence of these chemicals, and to take the appropriate steps open to the Contracting Parties to prevent the import or use, or the start of production, of these chemicals in circumstances in which they might reach and affect the maritime area.

37. In adding certain substances to the OSPAR List of Chemicals for Priority Action, OSPAR therefore agreed that:

a. from time to time, Contracting Parties should include in their regular monitoring and surveys of chemicals in use, checks to see whether these chemicals are present;

b. the observers representing the chemical industries should be invited to check from time to time whether their members know of any production, import or use of these chemicals;

c. Contracting Parties should take the appropriate steps that are open to them to prevent the import or use, or the start of production, of these chemicals in circumstances in which they might reach and affect the North-East Atlantic;

d. Contracting Parties should ensure that, where any approval is sought from a public authority for an activity or development which could lead to discharges, emissions or losses of these substances to the maritime area, that authority should be able, and required, to take into account in its decision the need to control the risk of such discharges, emissions or losses to the maritime area;

e. every five years, commencing in 2003, Contracting Parties and, where appropriate, observers representing the chemicals industries should report to OSPAR:

   i. whether they have found any evidence that these chemicals are being produced, used or discharged, and, if so, what that evidence is, and what action (if any) has been taken;

   ii. whether there have been any cases where applications have been made for approvals involving these chemicals, and, if so, what decision was taken.

38. The first range of substances to which these agreements are applied are 1,3,5-tribromo-2-(2,3-dibromo-2-methylpropoxy)benzene, pentabromoethyl benzene, EPN, flucythrinate, heptachloronorbornene, heptachloronaphthalene, hexachloronaphthalene, isodrin, octachloronaphthalene, pentachloroanisole, tetrachloronaphthalene, tetrasul, trichloronaphthalene,

and urea, NN-bis (5-isocyanato-1,3,3 trimethyl-cyclohexyl)methyl. These are among those which were added by OSPAR 2001 to the OSPAR List of Chemicals for Priority Action. (The Chemical Abstracts Service (CAS) registry numbers for these substances are given in Annex 2, which sets out the current OSPAR List of Chemicals for Priority Action (Update 2001)).

Measures on specific substances

39. OSPAR 2001 began on a substantial scale to develop action on the substances on the List of Chemicals for Priority Action. It agreed to publish Background Documents on six substances and also agreed what follow up action was needed on them. The substances and a brief description of the actions agreed are as follows:

a. brominated flame retardants
   - support for action within the European Community for:
     - measures on restricting the use of these substances in electrical and electronic equipment and on the handling of waste electrical and electronic equipment containing them,
     - harmonised restrictions on the use of pentabrominated diphenyl ether,
     - risk-reduction strategies for octabrominated diphenyl ether and decabrominated diphenyl ether,
     - depending on the outcome of EC risk assessments, including these substances in the list of priority substances under the EC Water Framework Directive;
   - the development of a monitoring strategy for these substances; and
   - a review of the situation in 2003 in the light of developments in the European Community;

b. nonylphenol and nonylphenol ethoxylates
   - support for action within the European Community for risk-reduction strategies for these substances, particularly in relation to textiles, coatings, fibre-bonding and agricultural pesticides;
   - action by Contracting Parties to prevent inappropriate substitution;
   - a review of the need for action on the use of these substances in the offshore oil and gas industry;
   - the development of a monitoring strategy for these substances; and
   - a review of the situation in 2003 in the light of developments in the European Community;

c. pentachlorophenol and its compounds
   - support for action within the European Community to ban the import after 2008 of products containing these substances;
   - reporting by Contracting Parties on an information campaign to be carried out by producers of products that contain, or used to contain, these substances to encourage their consumers to adopt appropriate handling techniques for waste containing these substances;
   - setting by Contracting Parties with plants still using these substances of stringent emission limits for the short remaining period when they can be used;
   - reporting by such Contracting Parties on usage and levels in products;
   - reporting by all Contracting Parties levels in imported products and in the environment;
   - the development of a monitoring strategy for these substances; and
   - a review of the situation in 2009 in the light of the EC ban on these substances which takes final effect in 2008;

d. polychlorinated biphenyls (PCB)
   - support for action within the European Community to establish cut-off values for PCB content of electrical and electronic waste, and for the establishment of a strategy to control dioxins and PCBs;
   - further reporting on the implementation of PARCOM Decision 92/3;
   - development of a CEN standard for measuring PCBs;

- review of the situation at a suitable future date;

e. polycyclic aromatic hydrocarbons (PAH)

- support for EC action on the marketing and use of creosote-treated timber and for the inclusion of PAH on the list of priority hazardous substances under the EC Water Framework Directive;
- support for CEN work on standards for domestic combustion appliances;
- review of the controls (especially the emission values) for PAHs under existing OSPAR measures on the primary iron and steel industry and primary aluminium industry, and the progress under the EC Best Available Techniques Reference documents (BREFs) for these sectors;
- further reporting on the implementation of relevant OSPAR measures and on dumped dredged material and the collection of quantitative data for 2002/03 on discharges and emissions from major sources;
- development of a monitoring strategy for PAH;

and

f. short-chained chlorinated paraffins

- support for action within the European Community to impose harmonised restrictions on the use of SCCPs;
- greater efforts to implement PARCOM Decision 95/1, including identifying uses not previously recognised, identification of acceptable alternatives, and avoidance of the use of unacceptable substitutes;
- the development of an OSPAR monitoring strategy for SCCPs;
- review by OSPAR in 2003 of the need for further OSPAR measures to supplement the eventual EC measures.

40. The executive summaries of these Background Documents are reproduced at Annex 3. OSPAR 2001 also agreed that all these background documents should be drawn to the attention of other relevant international forums.

Measures on specific activities involving PAHs

41. On polycyclic aromatic hydrocarbons, OSPAR also published descriptions of Best Environmental Practice for the prevention of emissions or releases from domestic combustion appliances and from creosote-treated timber.

Measures on the chlor-alkali sector

42. For the past two years, informal intersessional work has been in progress to consider the implementation of PARCOM Decision 90/3 on Reducing Atmospheric Emissions from Existing Chlor-Alkali Plants. This "recommend[s] that existing mercury cell chlor-alkali plants be phased out as soon as practicable. The objective is that they should be phased out completely by 2010". OSPAR 2001 considered a report on the outcome of this work, which looked particularly at the question of whether it was possible to develop options which would either:

a. leave the existing Decision unchanged, but adopt additional measures to restrict further discharges, losses and emissions of mercury, and to ensure that the provisions of Decision 90/3 are achieved in a more transparent way; or

b. replace Decision 90/3 with a new OSPAR decision which would include, *inter alia*, the review of the 2010 date according to specified principles and the development of further controls on discharges, emissions and losses of mercury.

43. OSPAR 2001 noted that there is no consensus for the development of a new OSPAR measure for the chlor-alkali industry, nor any support for an additional measure to strengthen the existing measure by a binding OSPAR Decision to phase out the mercury-cell process by 2020. In the absence of such a consensus, OSPAR acknowledged that the existing measure remains valid, and had to be implemented.

44. To promote the implementation of Decision 90/3, therefore, OSPAR agreed to institute a regular reporting procedure, so that there could be examinations both of national progress on implementation generally, and of how the commitment in the OSPAR Convention to the application of best available techniques is being fulfilled in relation to this Decision.

45. OSPAR also considered the problems posed by the pure metallic mercury which remains when mercury-cell plants are closed. In total, there could be as much as 12 000 tonnes of this to be disposed of. OSPAR concluded that the control of the disposal of this material was more appropriate to action within the framework of the European Community to control the marketing and use of mercury, and therefore decided to indicate its views to the European Commission.

Progress in 2000 - 2001 on monitoring and assessment

Riverine and direct inputs

46. OSPAR continued with the comprehensive study of riverine inputs and direct discharges (RID) from Contracting Parties which are coastal states of the maritime area. Input data for substances carried to the maritime area of the OSPAR Convention by rivers and direct discharges are important in that they are one of the key pathways between the sources of substances of concern and their presence and effects in the maritime area. They can give an indication of the effectiveness of the OSPAR Commission's policies. The study covers both hazardous substances and nutrients. The results on nutrients are dealt with in the chapter on eutrophication.

47. OSPAR 2001 agreed to publish the Report on RID 1999. The geographical coverage for 1999 was similar to the coverage in previous years, with similar gaps: only riverine inputs were reported by Belgium and Ireland; France and Iceland did not provide input data for 1999. The part of the maritime area best covered remains the OSPAR Region II, the Greater North Sea, and especially the main body of the North Sea, although even here gaps exist.

48. Not all Contracting Parties reported data for all the mandatory parameters: Denmark did not provide metal data in 1999; metal data is missing from Spain for some riverine inputs; there are gaps in the data on inputs on γ-HCH and PCBs from Denmark, Ireland and Sweden (all inputs), Spain (most inputs), and Norway (direct inputs).

49. An assessment was made on the basis of all reliable and complete data sets, selected from the aggregated RID data on direct and riverine inputs. It was stressed that, because of the different circumstances of individual Contracting Parties relating to types of rivers and the location of monitoring points, there may be some inconsistencies between some estimates in absolute terms. Similarly, and due to a lack of completeness of data, aggregation of input estimates may be misleading and must not be done without allowing for, or otherwise acknowledging, these possible deficiencies. In the assessment, data on inputs for the 9 years 1990-1998 were taken into account after a graphical check for anomalies. Another criterion for the selection of data sets was that the underlying concentration values should not contain too many concentration values below detection limits. This was the case for PCBs. As a result, an assessment was only made for a selection of determinands for Regions II (Greater North Sea) and III (Celtic Seas). For Region I (Arctic Waters), insufficient data were available, for Region IV ((Bay of Biscay and Iberian Coast) there also appeared to be too many data gaps. For the oceanic Region V (Wider Atlantic) no such input data are available. Trends were assessed quantitatively according to draft OSPAR methodology for trend assessments.

50. The assessment indicates that direct inputs are decreasing over the reporting period for mercury, copper, lead and zinc in the Greater North Sea and for cadmium, mercury and zinc in the Celtic Seas. The sums of direct and riverine inputs only appear to be decreasing for mercury in the Greater North Sea and for cadmium, mercury and zinc in the Celtic Seas. In the Greater North Sea, direct inputs of lindane are decreasing over the reporting period. No significant change can be found for the sum of direct and riverine inputs.

51. Table 1 shows a summary of direct and total waterborne inputs for these regions in 1999. Figure 1 shows graphically input data for 1990-99 for cadmium, mercury, lead and copper.

52. This first attempt to do a statistical analysis of trends in the RID input data ended with the formulation of a set of recommendations for further assessments, as well as for improvements to the RID Programme as a whole.

Chlor-alkali industry

53. OSPAR also published a report on mercury losses in 1999 from the chlor-alkali industry, including a one-off report on compliance by mercury-cell chlor-alkali plants with OSPAR measures. This included data on the reduction in mercury emissions since 1990 (see figure 2) and showed that all the mercury-cell chlor-alkali plants operating in the OSPAR catchment areas complied with the relevant OSPAR measures. It also showed:

a. after several years of more or less stable production capacities, mercury-cell-based chlorine production capacities have decreased from 1998 to 1999; reductions in Germany and Portugal seem to be mainly responsible for this decrease;

b. mercury losses through product, waste-water and air have slightly decreased from 1998 to 1999, except for the UK, for which a slight increase is indicated; this is understood to be due to a temporary problem of the water supply to one plant;

c. over the years, atmospheric emissions of mercury have been significantly reduced. Since 1997, however, UK air emissions have slightly increased.

Reporting on the implementation of measures

54. OSPAR 2001 agreed to publish an overview assessment of the implementation of PARCOM Recommendation 94/7 on the Elaboration of National Action Plans and Best Environmental Practice (BEP) for the Reduction of Inputs to the Environment of Pesticides from Agricultural Use.

55. OSPAR 2001 agreed that in general there is a need to improve the management of implementation reporting with respect to Decisions and Recommendations applicable under the OSPAR Convention. Future work on implementation reporting could be made more efficient, e.g. by grouping several measures with a focus on sectors or activities, simplification of reporting formats and the synchronisation of reporting requirements with other international forums. There is also a need to improve the quality of overview assessments of national implementation reports. OSPAR 2001 also agreed that the Commission should be kept informed on a regular basis about progress with regard to implementation reporting.

Table 1: Direct and total waterborne inputs in the Greater North Sea and the Celtic Seas in 1999

Sea Area			Cd [t]	Hg [t]	Cu [t]	Pb [t]	Zn [t]	g-HCH [kg]	PCBs(1) [kg]	NH4-N [kt]	NO3-N [kt]	PO4-P [kt]	Total N [kt]	Total P [kt]	SPM(2) [kt]
North Sea															
	Kattegat	(lower estimate)	0,8	0,15	31	13,6	232	NI	NI	3,3	37	0,4	61	1,4	0,0
		(upper estimate)	0,8	0,15	31	13,6	232	NI	NI	3,3	37	0,4	61	1,4	0,0
	Skagerrak	(lower estimate)	1,5	0,4	110	26	359	9	0,0	1,8	24	0,4	48	1,6	428
		(upper estimate)	1,9	0,6	110	26	359	9	0	1,8	24	0,4	48	1,6	431
	North Sea	(lower estimate)	26	6,3	1030	846	4781	466	313	66	671	34	921	58	8586
	(main body)	(upper estimate)	33	8,3	1039	861	4941	674	1501	68	675	35	930	61	8737
	Channel	(lower estimate)	0,9	0,02	105	24	205	15	0,1	7,5	26	2,8	34	2,8	167
		(upper estimate)	1,0	0,05	106	27	207	25	26,1	7,5	26	2,8	34	2,8	168
Irish Sea		(lower estimate)	2,2	0,6	105	128	657	5	4	13	64	6,8	67	9	761
		(upper estimate)	3,5	1,4	107	133	659	123	600	14	65	7,3	67	10	769
Celtic Sea		(lower estimate)	4,9	0,1	129	137	1005	18	5,0	10	132	5,5	69	6,7	1065
		(upper estimate)	7,3	0,2	130	146	1005	83	173	10	132	5,5	69	6,7	1066

Note: Some Contracting Parties have not submitted information on direct inputs because under the current Principles of the Comprehensive Study, these inputs do not fall under the 90 % (of total inputs) monitoring requirement.

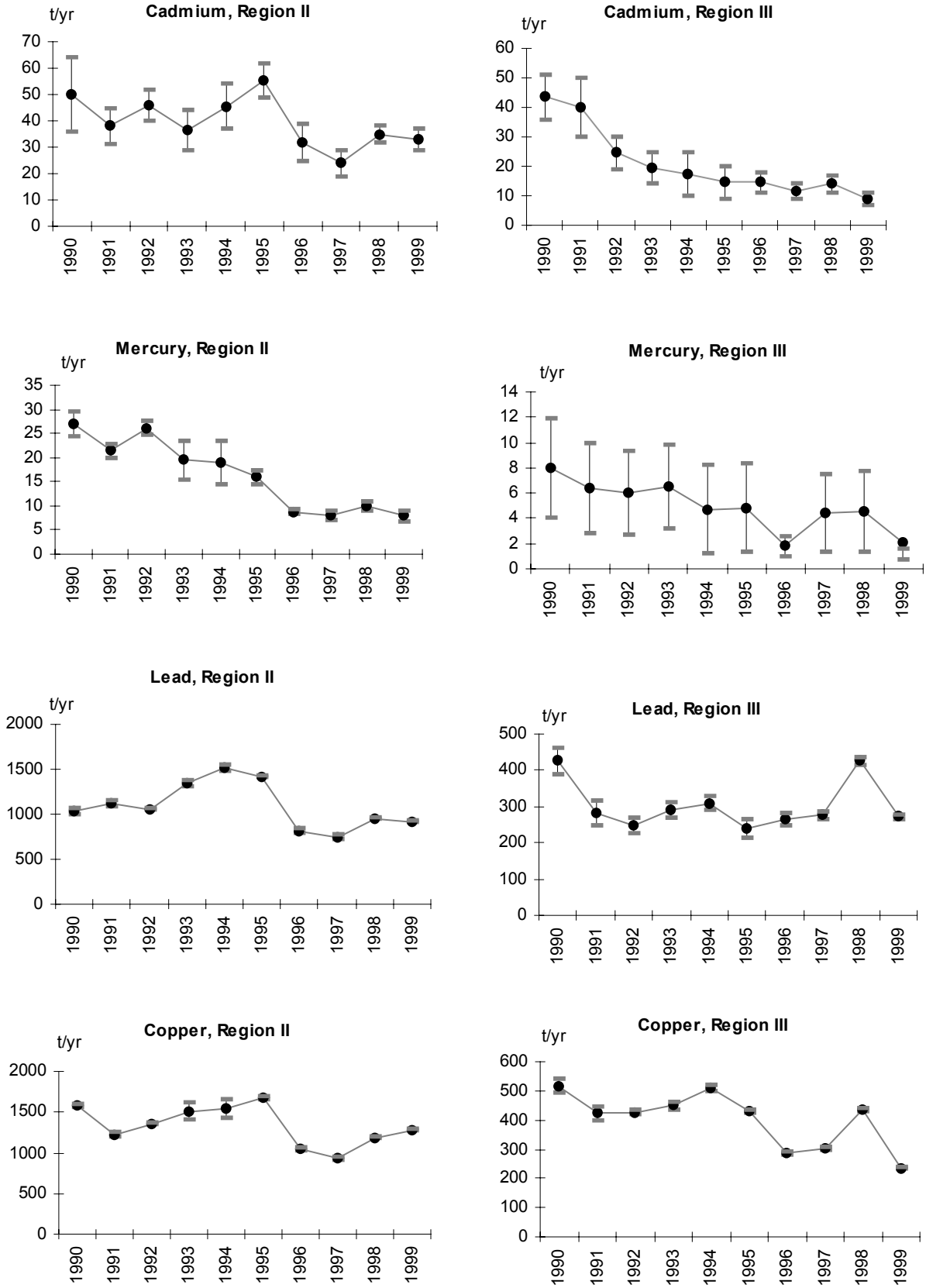

Figure 1

Graphical representation of input data for 1990-99 for cadmium, mercury, copper and lead

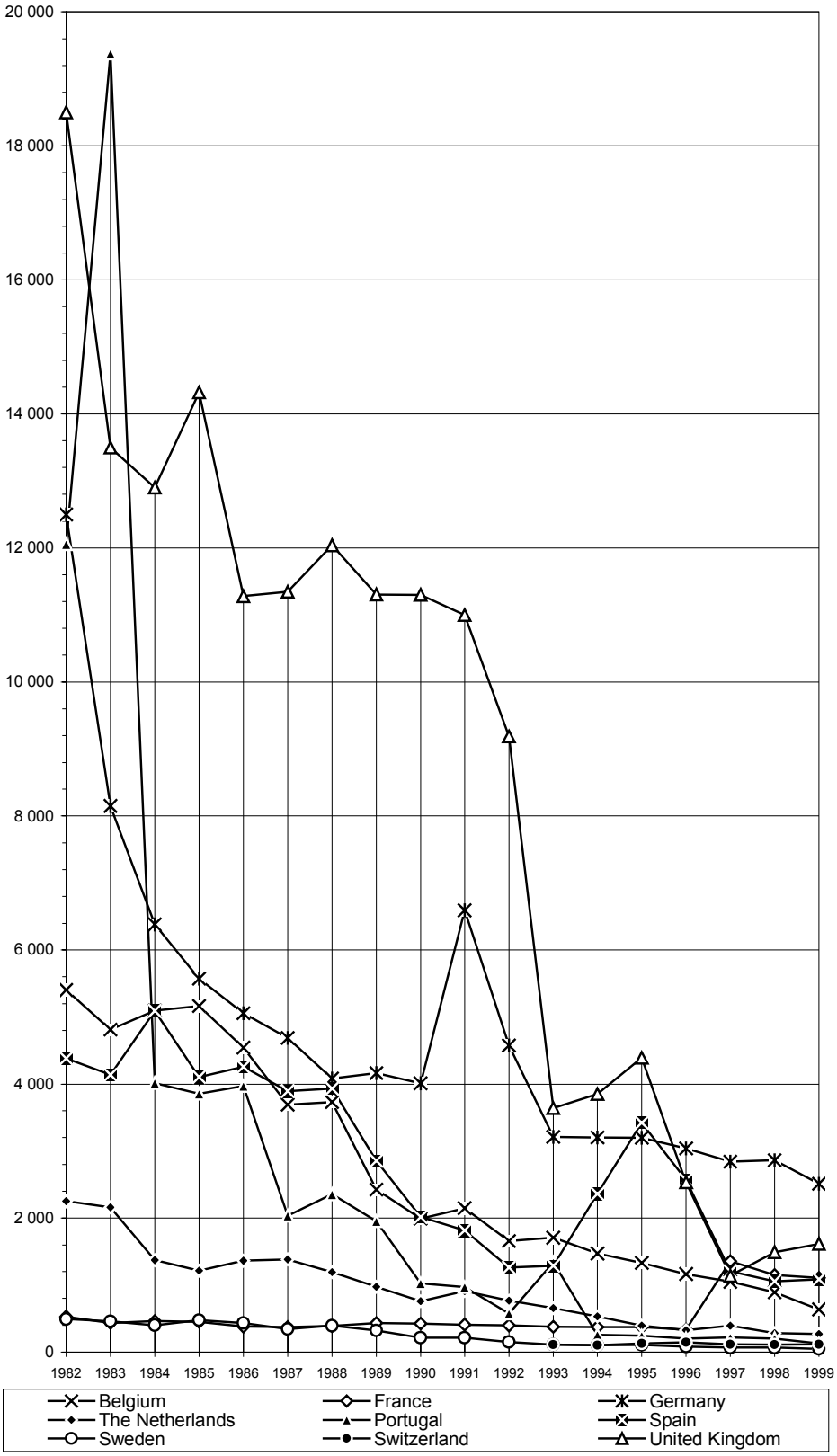

Figure 2: Trends in mercury emissions by the chlor-alkali industry
Mercury Losses through Product, Wastewater and Air
(in kilograms per year, sum of mercury losses to product and wastewater from national plants discharging into the OSPAR catchment area plus atmospheric emissions from all national plants except Finland)

chapter 3

Radioactive Substances

The Strategy

56. The OSPAR Strategy with regard to Radioactive Substances, including waste, sets the objective of preventing pollution of the maritime area from ionising radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances. In achieving this objective, the following issues should, *inter alia*, be taken into account:

a. legitimate uses of the sea;

b. technical feasibility;

c. radiological impacts on man and biota.

57. As its timeframe, the Strategy further declares that by the year 2020 the Commission will ensure that discharges, emissions and losses of radioactive substances are reduced to levels where the additional concentrations in the marine environment above historic levels, resulting from such discharges, emissions and losses, are close to zero.

58. The Strategy sets out a definition of radioactive substances, and provides that OSPAR will identify, assess and prioritise radioactive substances and/or human activities which give rise to concern about the impact of discharges, emissions or losses of radioactive substances. Effective action is to be taken when there are reasonable grounds for concern that radioactive substances introduced into the marine environment, or which reach or could reach the marine environment, may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between inputs and effects.

The Quality Status Report 2000

59. The main conclusions of the Quality Status Report 2000 (see chapter 7) on the identification of priorities for action on radioactive substances are that within the framework of the implementation of the OSPAR Strategy with regard to Radioactive Substances, it is important to develop environmental quality criteria for the protection of the marine environment from adverse effects of radioactive substances and to report on progress by 2003. The investigations of the significance of possible leakage from the sunken nuclear submarines and from old dumpsites should be continued. If appropriate, an adequate policy to prevent pollution from such sources should be developed and implemented.

Summary of Progress 1998 - 2000

60. A Progress Report on the implementation of the OSPAR Strategy with regard to Radioactive Substances was adopted by OSPAR 2000. This was based on information from Contracting Parties concerning their national policies, different sources of radioactive discharges, and proposed the establishment of a baseline situation by which to evaluate progress in implementing the Strategy. The report also contained recommendations for future work and priorities including the review of discharge authorisations and the need to start joint work with other international organisations. The progress report considered that the baseline should consist of data on discharges of radioactive substances, their concentrations in the marine environment and the resultant radiation doses to members of the public. OSPAR reports and information from national and other sources should be taken into account in establishing the baseline.

61. Following the work carried out on this progress report, OSPAR 2000 adopted a Programme for the More Detailed Implementation of the OSPAR Strategy. This provides for the submission of national plans which will show how the elimination or reduction of radioactive substances from both nuclear and non-nuclear sources will be achieved to meet the 2020 goal on radioactive discharges, emissions and losses and will support the development of a collective overview of progress towards this goal.

62. OSPAR 2000 adopted OSPAR Decision 2000/1 on Substantial Reductions and Elimination of Discharges, Emissions and Losses of Radioactive Substances, with Special Emphasis on Nuclear Reprocessing. This Decision requires the urgent review of current authorisations for discharges and releases of radioactive substances from nuclear reprocessing plants, with a view to implementing the non-reprocessing option for spent nuclear fuel management at appropriate facilities, and taking preventive measures against pollution from accidents. France and the UK abstained and are not therefore bound by this Decision; they stated, however, that they were carrying out reviews of the authorisations of their nuclear reprocessing plants.

Progress in 2000-2001 on Programmes and Measures

63. OSPAR 2001 adopted OSPAR Decision 2001/1 on the Review of Authorisations for Discharges or Releases of Radioactive Substances from Nuclear Reprocessing Activities. This Decision requires the completion, as a matter of urgency, of the review in OSPAR Decision 2000/1 of authorisations for discharges or releases of radioactive substances from nuclear reprocessing facilities from nuclear reprocessing facilities. France, Switzerland and the UK abstained and are not therefore bound by this Decision. OSPAR 2001 also brought forward the deadline for the submission of the programmes referred to in paragraph 61 to July 2002.

Progress in 2000-2001 on Monitoring and Assessment

Report on Liquid Discharges from Nuclear Installations in 1999

64. The data from Contracting Parties on liquid discharges from nuclear installations between 1989 and 1999 were assessed. These data are summarised in Table 2. Figure 3 shows temporal trends of total alpha, tritium and total beta excluding tritium for the period 1989 to 1999.

65. The assessment shows a downward trend of the total alpha activity discharged from all nuclear installations over the 10-year period. Overall, discharges of alpha activity in 1999 were very slightly lower than in 1998, although higher than the figure for 1997. In 1999 there were increases in alpha discharges from the nuclear fuel fabrication sector. However these were offset by reductions in discharges of alpha activity from nuclear fuel reprocessing plants. The relative contribution of alpha discharges from nuclear fuel fabrication and enrichment plants increased to 57,7%. The most significant contributors to the summed discharges are from the fuel fabrication plant at Springfields (0,24 TBq) and the reprocessing plant at Sellafield (0,13 TBq). Discharges from research and development facilities reduced in 1999 to 0,003 TBq from the range 0,03 - 0,13 TBq over the period 1991 - 97.

66. The tritium releases from all installations increased from around 8 000 TBq/y for 1989 - 1992 to 18 870 TBq in 1999. This increase is mainly due to the discharges from La Hague (1999: 12 900 TBq, 1998: 10 500 TBq). The reprocessing plants in La Hague and Sellafield contribute, in aggregate, approximately 82% of the overall discharges. Discharges of tritium from nuclear power stations and research and development facilities show no pronounced trend over the time period 1996 - 99.

67. As Figure 3 shows, the sum of total beta activity, excluding tritium, from all nuclear installations has fallen significantly over the past 10 years, from 930 TBq (1989), 365 TBq (1995) down to 265 TBq (1998) and 256 TBq (1999). Since 1995, there has been a year-on-year decrease in the overall total beta activity discharged into the OSPAR maritime area. When compared to 1998, the overall decrease in 1999 was mainly the result of reductions in discharges from both Springfields (1998: 150 TBq, 1999: 128 TBq) and the reprocessing plant in La Hague (1998: 26,5 TBq, 1999: 15,8 TBq), although this was partly offset by an increase in the total beta activity discharged from Sellafield (110 TBq), mainly attributable to the radionuclides Technetium-99 and Strontium-90. Although there was an increase in discharges of these radionuclides in 1999, over the past 5 years, discharges of Technetium-99 from Sellafield have reduced from a peak of 190 TBq in 1995. Over the same period, discharges of Strontium-90 from this site have fluctuated between 16 TBq and 37 TBq per year and there is no clear trend. The discharge data in terms of total beta activity show a continuously downward trend for nuclear power plants and research and development facilities since 1997.

Table 2: Summary of liquid radioactive discharges of nuclear installations, 1989 - 99

TOTAL ALPHA	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All Nuclear Installations (TBq)	3,14	2,43	2,43	1,83	2,88	1,36	0,68	0,57	0,38	0,43	0,42
Reprocessing Plants (TBq)	2,7	2,2	2,2	1,7	2,7	1,1	0,47	0,32	0,23	0,22	0,17
% of all installations	86,0	90,6	90,6	93,0	93,7	80,9	69,1	56,1	60,5	51,2	41,6
Nuclear Power Plants (TBq)	-	-	-	-	-	-	-	-	-	-	-
% of all installations	-	-	-	-	-	-	-	-	-	-	-
Nuclear Fuel Fabrication	0,41	0,21	0,15	0,10	0,08	0,16	0,12	0,12	0,12	0,20	0,24
% of all installations	13,1	8,6	6,2	5,4	2,8	11,8	17,6	21,1	31,6	46,5	57,7
Research and Development	0,03	0,02	0,03	0,03	0,1	0,1	0,09	0,13	0,03	0,01	0,003
% of all installations	0,9	0,8	1,2	1,6	3,5	7,3	13,3	22,8	7,9	2,3	0,7

TRITIUM	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All Nuclear Installations (TBq)	8 036	7 224	8 797	7 658	10 902	12 931	15 040	16 779	17 991	16 240	18 871
Reprocessing Plants (TBq)	5 814	4 959	6 513	4 969	7 460	9 770	12 310	13 500	14 500	12 800	15 420
% of all installations	72,4	68,6	74,0	64,9	68,4	75,6	81,9	80,5	80,6	78,8	82,1
Nuclear Power Plants (TBq)	2 161	2 164	2 252	2 665	3 354	3 044	2 713	3 264	3 440	3 430	3 335
% of all installations	26,9	30,0	25,6	34,8	30,8	23,3	18	19,5	19,1	21,1	17,8
Nuclear Fuel Fabrication	-	-	-	-	-	-	-	-	-	-	-
% of all installations	-	-	-	-	-	-	-	-	-	-	-
Research and Development	61	101	32	23,7	87,9	117,5	16,7	15	16	14	16
% of all installations	0,7	1,4	0,4	0,3	0,8	0,9	0,1	0,0	0,1	0,1	0,1

TOTAL BETA	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All nuclear installations (TBq)	930	491	227	269	252	321	365	332	315	265	256
Reprocessing plants (TBq)	690	384	178	134	170	195	243	169	167	112	126
% of all installations	74,2	78,3	78,4	49,8	67,4	60,8	66,5	50,9	53,0	42,4	49,1
Nuclear power plants (TBq)	7,6	10,3	3,8	8,8	11,1	2,8	3,4	5,2	7,4	2,0	2,0
% of all installations	0,8	2,1	1,7	3,3	4,4	0,9	0,9	1,6	2,3	0,8	0,7
Nuclear fuel fabrication (TBq)	114	92	38,9	120	63	114	112	150	140	150	128
% of all installations	12,2	18,7	17,1	44,6	25	35,5	30,7	45,1	44,4	56,6	50,0
Research and Development	119	4,5	6,3	6,6	8,2	9,1	7,0	8,1	1	0,66	0,36
% of all installations	12,8	0,9	2,8	2,4	3,2	2,8	1,9	2,4	0,3	0,2	0,1

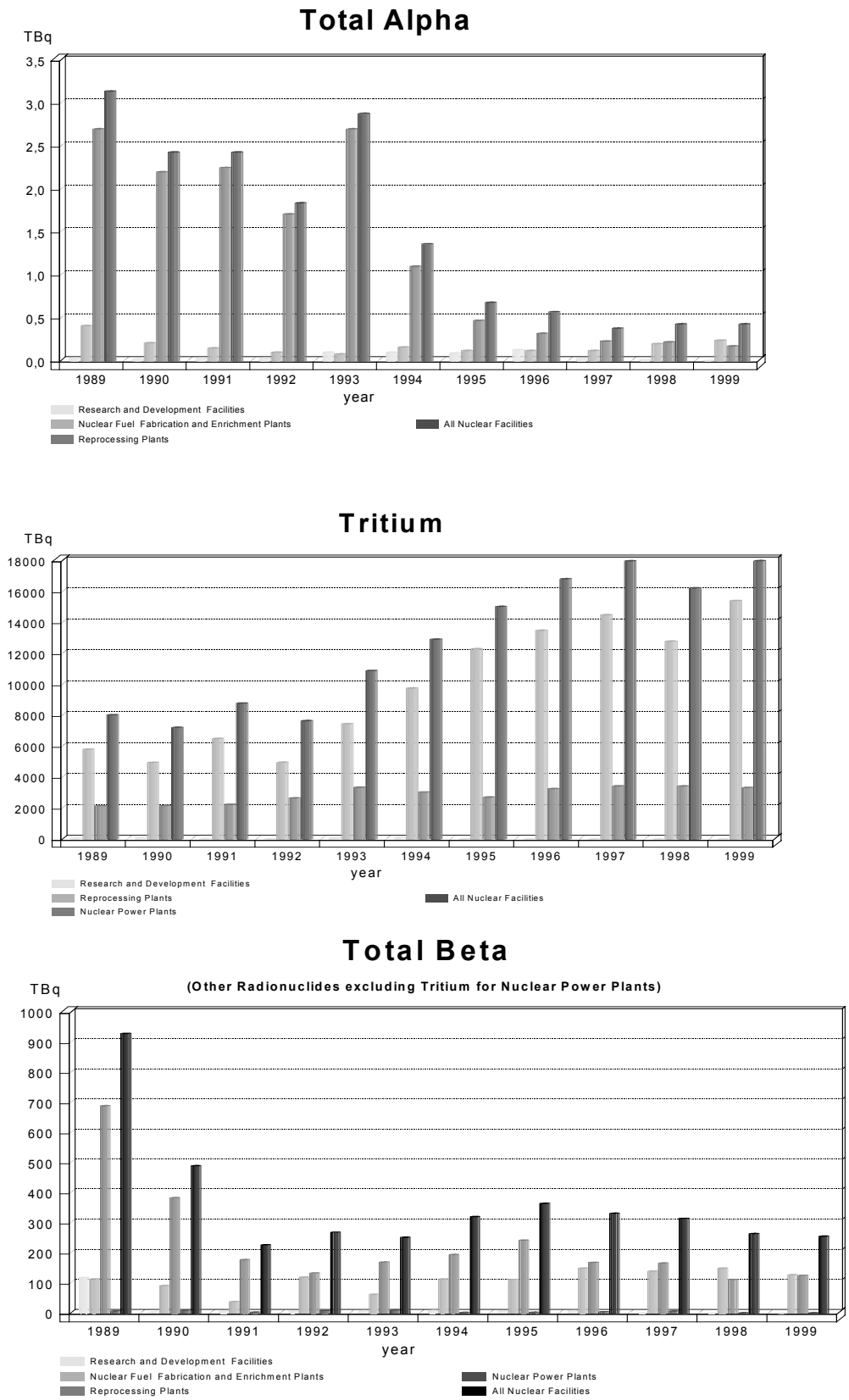

Figure 3: Temporal trends of total alpha, tritium and total beta excluding tritium 1989 – 1999

chapter 4

Eutrophication

The strategy

68. The OSPAR Strategy to Combat Eutrophication sets the objective of combating eutrophication in the OSPAR maritime area in order to achieve and maintain a healthy marine environment where eutrophication does not occur.

69. As its timeframe, the Strategy further declares that the Commission will implement this strategy progressively by making every endeavour to achieve, by the year 2010, a healthy marine environment where eutrophication does not occur. To this end, the Commission will identify by 2002 the eutrophication status of all parts of the maritime area and any additional programmes and measures deemed necessary to achieve the 2010 target.

70. The Strategy sets out a definition of eutrophication (based on identifying undesirable disturbances to the balance of organisms present in water and to water quality, and therefore referring to undesirable effects resulting from anthropogenic enrichment of water by nutrients), and provides that priority shall be given to:

a. the application of the comprehensive procedure as part of the Common Procedure for the identification of the eutrophication status of the OSPAR maritime area; and
b. the development of appropriate reporting procedures;
c. the identification and quantification of the various sources of nutrients (e.g. by sector, sub-catchment, catchment, region, nation and/or other relevant subdivision);
d. the development of measures to combat eutrophication (including both a target-oriented approach and a source-oriented approach, the latter starting from the implementation of existing obligations and commitments).

The Quality Status Report 2000

71. The main conclusions of the Quality Status Report 2000 (see chapter 7) on the identification of priorities for action were that within the framework of implementing the Strategy to Combat Eutrophication, OSPAR Contracting Parties should give particular attention to pursuing, without delay, the target-orientated and source-orientated approaches of the strategy, and in particular:

a. implementation of existing measures aimed at reducing emissions, discharges and losses of nutrients from agriculture and urban sources. In this respect, emphasis should be placed on:
   i. increased effectiveness of the implementation of the Urban Waste Water Treatment Directive and the Nitrates Directive; and
   ii. mechanisms to reduce input from diffuse sources, particularly agricultural fertilisers, livestock and atmospheric deposition; and
b. the further development and application of the Common Procedure and the development and adoption of ecological quality objectives.

72. The existing monitoring activities should be harmonised throughout the maritime area in order to establish links between nutrient enrichment and eutrophication effects. Work to model the consequences of various reduction scenarios should continue in parallel with spatial surveys and laboratory experiments to obtain necessary data for validation and testing. There is a need for further research on a range of topics to improve understanding of the causes and dynamics of blooms, their potential links to eutrophication, toxin production by phytoplankton, and the accumulation of toxins in shellfish and other biota.

Summary of Progress 1998 - 2000

73. OSPAR 2000 adopted OSPAR Guidelines for Harmonised Quantification and Reporting Procedures for Nutrients to be used on a trial basis to report on existing and any new OSPAR

programmes and measures with regard to nutrients with a view to adopting at OSPAR 2003 Harmonised Quantification and Reporting Procedures. As a first step of a stepwise approach, the guidelines will be used for reporting on the implementation of PARCOM Recommendations 88/2 and 89/4.

74. The Common Procedure for the Identification of the Eutrophication Status of the Maritime Area of the OSPAR Convention adopted by OSPAR in 1997 comprises two steps. The first step is a Screening ("broad brush") Procedure to identify areas which in practical terms are likely to be non-problem areas with regard to eutrophication. The second step is the Comprehensive Procedure, which enables the maritime area to be classified in terms of problem areas, potential problem areas and non-problem areas with regard to eutrophication.

75. In 2000 a report on the outcome of applying the screening procedure was finalised (subject to the revision made in 2001 – see paragraph 77). The screening procedure enabled the identification of the areas that will be subject to the Comprehensive Procedure, and identified the major parts of the OSPAR maritime area that, in practical terms, can be considered as non-problem areas with regard to eutrophication.

76. At the same time, a framework and stepwise procedure were agreed for preparing the overall assessment of the eutrophication status of the OSPAR maritime area, and the related and parallel development of Ecological Quality Objectives for nutrients and eutrophication effects.

Progress in 2000-2001 on Programmes and Measures

Common Procedure

77. OSPAR 2001 noted that last year's agreement on the parts of the OSPAR maritime area to which the Comprehensive Procedure was to be applied omitted some of the conclusions of the report on the application of the Screening Procedure about local areas of possible concern. OSPAR 2001 therefore revised the agreement, and agreed that localised areas of concern, including those located in areas characterised by Contracting Parties as non-problem areas through the application of the Screening Procedure, have to be taken into account in the application of the Comprehensive Procedure.

50% reductions

78. OSPAR 2001 agreed to publish an evaluation of the expected situation of the eutrophication status in the maritime area following the 50% reduction target for nutrient inputs called for in PARCOM Recommendation 88/2. OSPAR agreed that this report represented the completion of the first element of the target-oriented approach within the OSPAR Strategy to Combat Eutrophication. The report is summarised in the box "50% reduction evaluation".

50% Reduction Evaluation

PARCOM Recommendation 88/2 on the Reduction of Inputs of Nutrients to the Paris Convention Area recommends that Contracting Parties take effective national steps in order to reduce nutrient inputs into areas where these inputs are likely, directly or indirectly, to cause pollution, with the aim of achieving a substantial reduction (of the order of 50%) in inputs of phosphorus and nitrogen into these areas (between 1985 and 1995, or earlier if possible). The Strategy to Combat Eutrophication requires an evaluation of progress.

Subject to caveats based on the limitations of the methods by which it was produced, the evaluation showed that benefits are expected in reducing nutrient enrichment and its direct and indirect effects from a 50% reduction in both nitrogen (N) and phosphorus (P) inputs for many coastal waters (French estuaries/Atlantic coast, French and UK Channel, Belgian, Dutch, German and Danish coastal waters, the Norwegian Skagerrak, Irish estuaries, the Tagus estuary in Portugal), and for some other waters.

Effects on the assessment parameters of the Comprehensive Procedure can be summarised as follows:

for direct causative factors, a reduction of up to 25% - 30% in N and P concentrations in coastal waters is expected. Due to reduction measures being more effective for P than for N, the current increased N/P ratios in these waters will move towards normal ratios when reductions for N match those for P;

for the direct-effect parameters, the expected effects are:

- up to 25% - 30% reduction of chlorophyll *a* in coastal waters: and up to about 30% reduction in primary production in coastal waters;
- for phytoplankton indicator species, a reduction in bloom levels, and the duration of such blooms, and a decreased risks of toxic blooms;
- for macrophytes, including macroalgae in shallow waters, an improvement in the occurrence and depth limits of long-lived species (such as eel-grass and brown algae);

for the indirect-effect parameters, the expected effects are:

- no pronounced oxygen depletion in years of normal climate, and decreased risk of oxygen depletion in stratified coastal waters, as well as in stratified offshore waters and sedimentation areas;
- hence, decreased threats to benthic life.

The following effects are therefore expected:

- a food supply that is still sufficient for higher trophic levels;
- an improved quality of food supply (lower risks of nuisance and toxic algal blooms and oxygen deficiency);
- increased ecological efficiency.

79. The 50% reduction target for nutrient inputs is an important step towards the requirement in the OSPAR Strategy to achieve a healthy marine environment with respect to eutrophication in 2010. However, the level of reduction was based on a policy decision. The more precise level of required reduction for the areas concerned will be established by implementing the OSPAR Strategy to Combat Eutrophication, in particular, through the application of the harmonised assessment criteria of the Comprehensive Procedure and the further elaboration of relevant ecological quality objectives.

Progress in 2000-2001 on Monitoring and Assessment

Nutrient monitoring programme

80. Contracting Parties continue to implement the nutrient monitoring programme taking into account the progress made on identifying problem, potential problem and non-problem areas with regard to eutrophication. There have been apparent significant declines in submissions of nutrient monitoring data to the ICES oceanographic database over the last decade. These declines

present difficulties in achieving adequate data coverage for some parts of the OSPAR maritime area.

Comprehensive Procedure

81. First draft proposals have been prepared on harmonisation and application of common agreed assessment parameters and guidance to Contracting Parties on undertaking their comprehensive assessments of the eutrophication status of their parts of the maritime area. These are to be settled as far as possible in 2001. Contracting Parties will then be required to finalise their comprehensive assessments of the eutrophication status of their parts of the maritime area by September 2002. A first draft assessment of the eutrophication status of the maritime area, will be submitted to OSPAR 2003. Results for the greater North Sea will also be submitted to the Fifth International Conference on the Protection of the North Sea (commonly referred to as the 5th North Sea Conference, 5NSC).

Ecological Quality Objectives

82. A first draft has been prepared of Ecological Quality Objectives for nutrients and eutrophication effects. These preliminary objectives will be further developed with a view to preparing proposals for objectives for the North Sea for submission to the 5th North Sea Conference.

Quality Assurance

83. The joint ICES/OSPAR Steering Group on Quality Assurance of Biological Measurements related to Eutrophication Parameters (SGQAE) prepared draft general Guidelines on quality assurance for biological monitoring in the OSPAR area. These Guidelines will be finalised and adopted in 2002.

chapter 5

Marine Biodiversity

The Strategy

84. The OSPAR Strategy on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area sets the objective of protecting and conserving the ecosystems and the biological diversity of the maritime area which are, or could be, affected as a result of human activities and of restoring, where practicable, marine areas which have been adversely affected, in accordance with the provisions of the Convention.

85. When the Strategy was adopted, Annex V to the OSPAR Convention had only just been adopted and was not in force. The OSPAR Commission therefore had no competence to adopt programmes and measures in this field, and the Strategy therefore confined itself, in effect, to providing that OSPAR would assess which species and habitats need to be protected and what human activities are likely to have an actual or potential adverse effect on those species and habitats or on ecological processes, and thus to preparing for the entry into force of the Annex.

86. Annex V entered into force on 30 August 2000, after ratification by Finland (4 February 1999), Spain (1 November 1999), Switzerland (11 February 2000), Luxembourg (14 February 2000), European Community (29 May 2000), the United Kingdom (29 June 2000) and Denmark (31 July 2000). During 2000/01, Sweden (5 September 2000), Iceland (10 June 2001), Norway (22 June 2001) and the Netherlands (25 July 2001) also ratified the Annex.

The Quality Status Report 2000

87. The QSR 2000 played a substantial role in the preparations for the entry into force of Annex V by identifying priorities for action.

Capture fisheries

88. On fisheries, the QSR 2000 noted the general agreement that fisheries management and environmental policies must be further integrated, within the framework of the ecosystem approach. It is also important that the scientific basis for fisheries management should be continually improved and that the application of the Code of Conduct for Responsible Fisheries be further promoted. With a view to achieving stock sizes and exploitation rates that are within safe biological limits and to minimise ecological damage, action on the following issues could be considered by the appropriate authorities:

a. excessive fishing effort and overcapacity in the fishing fleet in some regions;
b. lack of precautionary reference points for the biomass and mortality of some commercially exploited stocks;
c. how to address the particular vulnerability of deep-sea species;
d. the risks posed to certain ecosystems and habitats, for example, sea mounts, hydrothermal vents, sponge associations and deep-water coral communities;
e. adverse environmental impacts of certain fishing gear, especially those leading to excessive catches of non-target organisms and habitat disturbance; and
f. the benefits for fisheries and/or the marine environment of the temporary or permanent closure or other protection of certain areas.

Other aspects of biodiversity

89. The QSR noted that careful consideration is needed to avoid serious conflicts of interest between the need to protect designated conservation areas and pressure of human requirements for housing, leisure, etc. There is a need for the application of codes of good practice in Coastal Zone Management to identify sensitive coastal areas and apply effective control regimes to minimise human impact. In the future, these problems could be exacerbated by global sea level rise as a result of climate change. In light of increasing sea levels, future coastal protection policies will have to address the question of how to guarantee adequate coastal protection in a way that is

compatible with the needs of conservation. The environmental impact of the present plans both for more land-based power generators at a number of coastal sites and for wind and possibly wave power generation systems offshore needs to be carefully considered. In addition, new developments should minimise interference with other users of the sea, particularly fishing and shipping.

90. Given the combination of risks posed by escape of cultured stock from mariculture undertakings and the high degree of uncertainty surrounding the impacts of escapees on wild populations, the QSR 2000 concluded that there is a need to develop more appropriate management measures.

91. In relation to the extraction of sand, gravel and aggregates, the QSR observed that, with increasing demand, more widespread and effective implementation of the ICES Code of Practice on Commercial Extraction of Marine Sediments is required. In addition, effective controls should be established, and the assessments of short- and long-term impacts of extraction should be improved.

92. In relation to dredging to maintain shipping channels and harbours and the consequent dumping of the dredged material, the QSR 2000 noted that, in future, maintenance dredging may increase, but natural variability of the climate (the number of storms) would also have an effect on the total amount of dredging required from year to year. It will be necessary to assess and mitigate the possible impacts. Existing management systems will also need careful monitoring to ensure that they continue to be effective.

93. In relation to marine litter, the QSR 2000 concluded that better implementation of Annex V (garbage) to the MARPOL Convention was needed, together with action to improve waste reception facilities in harbours. It is also important to pursue campaigns to educate the public and those involved in tourism, fishing and shipping industries and the relocation and/or improved management of coastal landfill sites from which garbage may escape to the sea.

94. In relation to shipping, the QSR concluded that the OSPAR Contracting Parties should also work through the International Maritime Organization for improved arrangements to avoid wrecks, particularly through engine failure, and collision, for improved quality of fuel oil and for controls on the movement of non-indigenous species in ballast water.

Summary of Progress 1998 - 2000

95. Although Annex V was not in force, OSPAR continued work on programmes and measures under other parts of the Convention relevant to protecting marine biodiversity. OSPAR 1999, subject to a reservation from Norway, adopted Guidelines on Artificial Reefs in relation to Living Marine Resources. These guidelines address structures specifically built for protecting, regenerating, concentrating and/or increasing the production of living marine resources and their habitats.

Progress in 2000 – 2001

Fisheries

96. Article 4 of Annex V provides that, within the general framework of the 1992 OSPAR Convention on the Protection of the Marine Environment of the North-East Atlantic, "Where the Commission considers that action is desirable in relation to [...] a question [relating to the management of fisheries], it shall draw that question to the attention of the authority or international body competent for that question". In the light of its Quality Status Report 2000 on the North-East Atlantic, the OSPAR Commission has concluded that action is desirable on a number of issues relating to the state of commercial fish stocks and of deep-sea fish species in the North-East Atlantic. OSPAR therefore instructed its Chairman to write to the European Commission, the Icelandic Ministry of Fisheries, the Royal Norwegian Ministry of Fisheries, the North-East Atlantic Fisheries Commission and the North Atlantic Salmon Commission to draw the conclusions of the QSR 2000 and the regional QSRs to their attention, and to request to be kept informed of the results of any initiatives being taken to promote integration of environmental policy and fisheries policy.

Dumping

97. At the 1998 Sintra Ministerial Meeting, Ireland had raised the problems resulting from past dumping of munitions and chemical weapons. As part of the work to address these problems, OSPAR 2001 agreed to the publication of an overview of past dumping of this kind. The overview gives details of the sites at which dumping has taken place in the past, and the general nature of the material dumped.

98. Since the introduction of the general ban on dumping of wastes and other material by the OSPAR Convention, the main category of dumping which is still permitted is that of dredged material. This results mainly from the dredging needed to maintain harbours and shipping channels. In consequence, the dredged material is mainly sediments, which are often contaminated by past inputs of hazardous substances from the land. These contaminants can be remobilised by dredging and dumping. OSPAR has therefore maintained a reporting system on dumping of such dredged material and the contaminants that it contains. OSPAR 2000 agreed the publication of annual reports for 1997 and 1998 on the dumping of wastes at sea, although some Contracting Parties have not provided information (Portugal for 1997 and Denmark and Portugal for 1998).

chapter 6

The Offshore Industry

The Strategy

99. The OSPAR Strategy on Environmental Goals and Management Mechanisms for Offshore Activities sets the objective of preventing and eliminating pollution and taking the necessary measures to protect the maritime area against the adverse effects of offshore activities so as to safeguard human health and of conserving marine ecosystems and, when practicable, restoring marine areas which have been adversely affected.

100. As its timeframe, the Strategy further declares that the Commission will implement this Strategy progressively and, in so far as they apply, following on and consistent with the commitments made in the other OSPAR Strategies.

101. The Strategy provides that OSPAR will address the programmes and measures:

a. needed to prevent, control and eliminate pollution under Annex III of the OSPAR Convention;

b. to be adopted under Annex V of the OSPAR Convention, once it has entered into force, following the identification of relevant human activities by the application of the criteria in Appendix 3 of the OSPAR Convention.

102. The implementation of the Strategy will concentrate on those offshore activities identified as being of greatest concern to the marine environment which could include, *inter alia*:

a. the use and discharge of hazardous substances, consistent with the OSPAR Strategy with regard to Hazardous Substances;

b. discharges of oil and other chemicals in water and from well operations;

c. emissions of substances likely to pollute the air, to the extent that they are not regulated by other international agreements;

d. flaring, to the extent that emission from flaring is not regulated by other international agreements;

e. the disposal of radioactive scales and sludges.

The Quality Status Report 2000

103. The main conclusions of the Quality Status Report 2000 (see chapter 7) on the identification of priorities for action with regard to offshore oil and gas were that in accordance with the OSPAR Strategy on Environmental Goals and Management Mechanisms for Offshore Activities, OSPAR should actively pursue the development and implementation by the offshore industry of environmental management mechanisms, including elements for auditing and transparent reporting, aimed at fulfilling the objective of this strategy. Furthermore, competent authorities should continue efforts aimed at a greater public openness regarding their activities.

Summary of progress 1998 - 2000

104. One of the main outcomes of the Ministerial meeting of OSPAR 1998 was a Decision on the Disposal of Disused Offshore Installations, in which Contracting Parties reached agreement on this issue – an issue which had been hotly debated in the *Brent Spar* incident in 1995.

105. OSPAR 2000 adopted:

a. OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals;

b. OSPAR Recommendation 2000/4 on a Harmonised Pre-Screening Scheme for Offshore Chemicals; and

c. OSPAR Recommendation 2000/5 on a Harmonised Offshore Chemical Notification Format (HOCNF).

These instruments, taken together, produce a coherent approach to the regulation of the use and discharge offshore of potentially hazardous substances.

106. OSPAR 2000 also adopted Decision 2000/3 on the Use of Organic Phase Drilling Fluids (OPF) and the Discharge of OPF-Contaminated Cuttings. This dealt with the possible problems that could be created by drilling fluids introduced since the 1992 PARCOM Decision on the Use of Oil-based Muds.

Progress in 2000 - 2001 on Programmes and Measures

Produced water

107. The main work of OSPAR 2001 on the offshore sector concerned the management of produced water. This is the water that comes up from wells, either from the strata which the well reaches or because it has been put down the well to assist in the production of the hydrocarbons. As the offshore wells in the North Sea become older, the volume of produced water resulting from oil and gas production is increasing substantially. Even if the proportion of oil in that produced water is kept down to a constant level, the total volume oil to be disposed of will increase.

108. OSPAR 2001 adopted OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations. The overall goal of this Recommendation is to:

a. reduce the input of oil and other substances into the sea resulting from produced water from offshore installations, with the ultimate aim of eliminating pollution from those sources;
b. ensure that an integrated approach is adopted, so that reduction in oil discharge is not achieved in a way that causes pollution in other areas and/or other environmental compartments;
c. ensure that effort is made to give priority to actions related to the most harmful components of produced water.

109. According to the Recommendation each Contracting Party should ensure that the total quantity of oil in produced water discharged into the sea in the year 2006 from all offshore installations under its jurisdiction has been reduced by a minimum of 15% compared to the equivalent discharge in the year 2000 from all offshore installations under its jurisdiction at that time. For remaining discharges of produced water to the sea a more stringent performance standard for dispersed oil of 30 mg/l should be complied with by the end of the year 2006.

Offshore installations

110. Under § 6 of the 1998 OSPAR Decision on the Disposal of Disused Offshore Installations, Contracting Parties have to report to the Commission every 2 years relevant information on the offshore installations within their jurisdiction. OSPAR 2001 agreed to make the OSPAR Offshore Database (which constitutes the Inventory of Offshore Installations in the OSPAR Maritime Area) available to the public on the OSPAR website.

Injection

111. OSPAR 2001 also agreed to publish a technical document on the environmental aspects of on- and off-site injection of drill cuttings and produced water. The main points are summarised in annex 4. It also agreed that OSPAR should consider what programmes and measures might be appropriate for defining best available techniques and best environmental practice in this field.

Progress in 2000 - 2001 on Monitoring and Assessment

112. Guidelines for Monitoring Methods to be used in the Vicinity of Offshore Oil and Gas Installations were adopted by OSPAR 2001. These guidelines aim to provide guidance on the design and conduct of monitoring programmes across the range of differences that exist between different producing areas. Consistency in the monitoring guidelines, both with respect to the

selection of parameters and the approach to sampling and analysis is emphasised. The application of quality assurance protocols (where they exist) will enable the results of the investigations to be compared from year to year and evaluated holistically across the entire area.

113. Data from the Annual Report on Discharges, Waste Handling and Air Emissions from Offshore Installations were assessed. The main conclusions are set out in the box "Offshore Discharges".

Offshore Discharges

Total production of hydrocarbons remained at the same level in 1997 and 1998 and increased by 5% in 1999.

The total quantity of oil discharged into the OSPAR maritime area, excluding synthetic-based drilling fluids (now called organic-phase drilling fluid (OPF)), was 9 519 tonnes in 1997, 8 868 tonnes in 1998 and 9 053 tonnes in 1999. This represents a decrease of 7% between 1997 and 1998, and an increase of 2% between 1998 and 1999. (See Table 3)

The 1997/1998 decrease followed an exceptional spillage in 1997, while the slight 1998/1999 increase was due to an increase in the discharge of produced water.

If reported discharges of OPF are taken into account, a continuous decrease is seen in the total discharge of hydrocarbons into the maritime area: discharges of 16 753 tonnes of oil and OPF were reported in 1997, 13 873 tonnes in 1998 and 13 642 tones in 1999.

Four sources of oil discharges are identified. These are produced water, drill cuttings, spills and flaring operations. Produced water and cuttings are the source of 98% of the total oil and OPF discharged. Spillage is a minor contributor and flaring contributes even less.

The evolution of total discharges including OPF between 1998 and 1999 is due to a slight increase in the discharges of produced water, and a slight reduction in the discharges of reported OPF;

The quality of the water discharged (expressed in terms of the content of oil in the water discharged) shows a continuing slight improvement; it averaged 23,2 mg/l in 1999, even better than in 1994 (24,0 mg/l), although the quantity of water discharged has doubled since then.

Overall, the number of installations which exceeded the 40 mg/l target standard for oil has significantly decreased (down 16%) since 1997. This overall decrease reflects a significant increase in 1998 (up 20%), followed by a more dramatic decrease in 1999 (down 31%).

More importantly, the average quantity of hydrocarbons discharged by those installations which exceeded the 40 mg/l target standard has significantly and continuously decreased (down 47%). This demonstrates that, in 1998 and 1999, a real effort has been made by those installations with the worst records, including in some cases stopping discharges to the sea by reinjecting the produced water or bringing it to shore for treatment.

Since 1997, the oil discharged via cuttings relates only to the use and discharge of synthetic-base drilling fluids (non-OBM OPF). There is no more discharge of oil-based drillings fluids and cuttings, except by accidental spillage. As OSPAR was not regulating OPF until 2000, not all Contracting Parties have reported their use and discharge of OPF. For those reporting, the hydrocarbons discharged through the use of OPF decreased by 30% in 1998 and by 8% in 1999.

Spillage: the total quantity of oil spilled is fairly stable: the 303 tonnes in 1998 and 283 tonnes in 1999 are in line with quantities spilt in 1994-1996 (1997 was an exceptional year, with a large spill).

Flaring: flaring makes a very minor contribution to the total discharge of oil. There is a reported decrease between 1998 and 1999. However, one of the Contracting Parties involved in flaring is not reporting any data (flaring is not presently regulated by OSPAR).

Table 3: Oil discharged into the maritime area through produced water discharges, spills and flaring

	in 1997 (tonnes)	**in 1998 (tonnes)**	**in 1999 (tonnes)**
Produced Water	8 513	8 562	8 768
Spills	1 005	303	283
Flaring	1	3	2
Total	*9 519*	*8 868*	*9 053*

chapter 7

Monitoring and Assessment

Obligations and Commitments

114. One of the new features of the 1992 OSPAR Convention was the general obligation to collaborate in regular monitoring and assessment of the state of the marine environment in the maritime area. Annex IV to the Convention provides for cooperation in monitoring programmes, joint quality assurance arrangements, the development of scientific assessment tools, such as modelling, remote sensing and risk assessment strategies, and the preparation of assessments.

115. In 1995 a Joint Assessment and Monitoring Programme was agreed to provide the basis for a comprehensive quality status report. In the Sintra Statement, Ministers noted the work in hand to produce this report, agreed a special budget for the Commission's work on it, and welcomed the idea of establishing, through it and the Joint Assessment and Monitoring Programme, a sound, scientific basis for identifying and prioritising future tasks in an overall comparative approach.

The Quality Status Report 2000

116. The Quality Status Report 2000 (QSR 2000), and its five supporting regional quality status reports, represent the first fruits of the work to fulfil these obligations. (These reports are published on the OSPAR website). It is the first attempt anywhere in the world to produce a detailed quality status report on such a large area of marine environment. Both the overall QSR 2000 and the regional reports follow the same structure. Following an introductory chapter, Chapter 2 gives an overview of the geography, hydrography and climatic conditions of the North-East Atlantic in order to give a baseline for the detailed descriptions of the physical, chemical and biological characteristics of the area presented in following chapters. Chapter 3 provides an outline of the most important human activities that influence the North-East Atlantic. Chapter 4 summarises information on the chemical aspects of the North-East Atlantic, focusing on inputs of contaminants and nutrients, and their concentrations in different environmental media and compartments. Chapter 5 deals with the biological features of the coastal and offshore ecosystems, focusing in particular on the causes, impact and implications of the changes that are occurring to their natural characteristics. Finally, Chapter 6 draws on Chapters 2 to 5 to identify trends, the effectiveness of measures and the major causes of any environmental degradation within the area and the managerial and scientific actions needed to redress this.

117. The overall assessment found in Chapter 6 of the QSR identifies, as far as is currently possible, the factors that govern environmental change in the various Regions, leading to a prioritisation of human pressures according to their impacts on the North-East Atlantic. This involved expert judgement for the identification and assessment of a variety of impacts, which differ in nature and importance, and in their spatial and temporal dimensions. The purpose of the conclusions and recommendations was to draw attention to problems and to identify priorities for consideration within appropriate forums as a basis for further work. The issues relevant to OSPAR's work have been noted in the previous chapters, in the context of OSPAR's work to address them.

The Joint Assessment and Monitoring Programme

118. The Joint Assessment and Monitoring Programme (JAMP) was focused on the production of the QSR 2000. With the completion of this exercise, OSPAR 2000 began the process of revising the JAMP for the new tasks ahead. Following discussions in the main committees, OSPAR 2000 agreed the objectives of the revised JAMP, and a procedure and timetable for completing its revision.

chapter 8

Organisation

Contracting Parties

119. The Contracting Parties to the OSPAR Convention, and thus under article 10(1) the members of the OSPAR Commission, are: the Kingdom of Belgium, the Kingdom of Denmark, the European Community (represented by the European Commission), the Republic of Finland, the French Republic, the Federal Republic of Germany, the Republic of Iceland, Ireland, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Kingdom of Norway, the Portuguese Republic, the Kingdom of Spain, the Kingdom of Sweden, the Swiss Confederation and the United Kingdom of Great Britain and Northern Ireland.

Observers

120. Under article 11, the OSPAR Commission may, by unanimous vote of the Contracting Parties, admit as an observer any State which is not a Contracting Party to the Convention and any international governmental or non-governmental organisations, the activities of which are related to the Convention. Such observers are entitled to participate in meetings of the Commission, its main committees and its working groups.

121. The following international governmental organisations have been admitted as observers: the Arctic Monitoring and Assessment Programme (AMAP); the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS); the Baltic Marine Environment Protection Commission (the Helsinki Commission - HELCOM); the Barcelona Convention for the protection of the Marine Environment of the Mediterranean Sea; the Common Wadden Sea Secretariat (CWSS); the Cooperative Programme for Monitoring and Evaluation of Long-Range Transmission of Air Pollutants in Europe (EMEP); the European Environment Agency (EEA); the Intergovernmental Oceanographic Commission (IOC); the International Commission for the Protection of the Rhine against Pollution; the International Council for the Exploration of the Sea (ICES); the International Atomic Energy Agency (IAEA); the International Maritime Organization (IMO); the Organisation for Economic Cooperation and Development (OECD); the Secretariat of the Fifth North Sea Conference (5NSC); the United Nations Environment Programme (UNEP).

122. Arrangements are being made for the Agreement for Cooperation in Dealing with the Pollution of the North Sea by Oil and Other Harmful Substances (the Bonn Agreement) and the OSPAR Commission to become formally observers at each other's meetings. Since the two organisations share a common secretariat, there has always been close cooperation.

123. The OSPAR Commission has decided to admit some international non-governmental organisations as general observers (who are entitled to participate in all aspects of the Commission's work which are not concerned with internal management or finance) and others as specialist observers who participate only in those aspects which are of concern to them. The general observers are: Bird Life International; the Conseil Européen des Fédérations de l'Industrie Chimique (CEFIC); Friends of the Earth; Greenpeace International; the International Association of Oil and Gas Producers (OGP) together with the Oil Companies' European Organisation for Environmental and Health Protection (CONCAWE); Kommunenes Internasjonale Miljøorganisasjon (Local authorities' international environmental organisation – KIMO); Seas at Risk; the Union of Industrial and Employers' Confederations of Europe (UNICE); and the World Wide Fund for Nature (WWF).

124. The specialist non-governmental observers are: the Advisory Committee on the Protection of the Sea (ACOPS); the Central Dredging Association (CEDA); the Confederation of European Paper Industries (CEPI); EuroChlor Federation; the European Apparel and Textile Organisation (EURATEX); the European Crop Protection Association (ECPA); the European Federation of Pharmaceutical Industries Association (EFPIA); the European Fertiliser Manufacturers Association (EFMA); the European Oilfield Speciality Chemicals Association (EOSCA); the European Soap and Detergent Industry (AISE); EUROPECHE (the Association of National Fisheries Organisations); the European Union of National Associations of Water Suppliers and Waste Water

Services (EUREAU); the International Association of Ports and Harbours (IAPH); the International Navigation Association (PIANC); the International Union of Producers and Distributors of Electrical Energy (UNIPEDE);and the World Nuclear Association.

Working Structure

125. The working structure is specified in the Rules of Procedure. Under article 10(4), these require the unanimous approval of the Contracting Parties. Following the adoption of the OSPAR Strategies, the working structure has been revised to give a single subordinate body prime responsibility for each of the main themes of the Commission's work. This revision is embodied in the revised Rules of Procedure adopted by OSPAR 2001.

126. OSPAR Commission meets regularly – at the level of officials – once every year, usually in late June. Following a reorganisation in 1999/2000, it is supported by six main committees: the Environmental Assessment and Monitoring Committee (ASMO); the Biodiversity Committee (BDC); the Eutrophication Committee (EUC); the Hazardous Substances Committee (HSC); the Offshore Industry Committee (OIC); and the Radioactive Substances Committee (RSC). Each of these usually meets once in each year's cycle of meetings, and is supported as necessary by working groups which prepare specific issues.

127. In addition, there are three other regular subordinate bodies. The Meeting of Heads of Delegations to the Commission consists of the heads of the Contracting Parties' delegations to the Commission and, where appropriate, their advisers. It meets usually twice a year to prepare issues for the Commission's meeting, to consider the implementation of the Commission's decisions and to advise on management and financial issues. The Committee of Chairmen and Vice-Chairmen consists of the Chairman of the Commission, the two Vice-Chairmen of the Commission and two of the Chairmen of the main committees selected by the Commission (currently the Chairmen of the Environmental Assessment and Monitoring Committee and the Hazardous Substances Committee). It meets as necessary to advise the Chairman and the Executive Secretary on their functions. The Group of Jurists and Linguists meets usually once a year to review the drafting of formal Commission instruments and to advise on legal questions.

Officers

128. The Chairman of the Commission is elected by consensus by the Commission. He or she serves for a two-year term, which may (in exceptional circumstances) be renewed once. He or she is assisted by two Vice-Chairmen, who serve for the same periods. The current Chairman is Mr Bob Dekker (Netherlands). The current Vice-Chairmen are Ms Lindis Nerbø (Norway) and Mr Victor Escobar (Spain). They were elected in June 2000. The Chairman presides over the meetings of the Commission, the Meeting of the Heads of Delegation to the Commission, the Committee of Chairmen and Vice-Chairmen and (unless he or she appoints someone else to do so) the Group of Jurists and Linguists. He or she is also authorised to take any initiatives which will promote the work of the Commission.

129. The chief executive officer of the Commission is the Executive Secretary, who is appointed by the Commission, by consensus, for a term of three years, which is renewable once only. He or she is assisted by four Deputy Secretaries, who are appointed on the same basis. The Secretariat also contains seven Assistants. During 2000/01, the Executive Secretary was Mr Ben van de Wetering (Netherlands) until 28 February 2001, and Mr Alan Simcock (United Kingdom) from 1 March 2001. The Deputy Secretaries were Ms Amparo Agraït (Spain) from 1 September 2000, Mr Reinier Goud (Netherlands), Mr Stefan Hain (Germany) until 31 August 2000, Dr Dornford Rugg (United Kingdom), and Mr Gert Verreet (Belgium).

Finance

130. The Commission is financed by the Contracting Parties. The Commission's financial year is the calendar year. After a contribution from the United Kingdom of 80% of the rent of the Secretariat’s offices, contributions to the General Budget are apportioned between Contracting Parties as follows:

a. Tranche 1:

five-sixths of the amount to be contributed, or basic budget, is divided first in equal contributions of 2,5% by all Contracting Parties, and then, for all Contracting Parties except the European Community, according to the UN Scale of Assessment (which is based on GNP), subject to a maximum share of 22% of Tranche 1;

b. Tranche 2:

the remaining sixth, North Sea budget, is divided equally between the 8 North Sea riparian States.

Since the Secretariat is based in London, the General Budget is denominated in pounds sterling. In addition to the General Budget, there is regularly a Special Budget for the work done by the International Council for the Exploration of the Sea (ICES) (denominated in Danish kroner, since ICES is based in Copenhagen), and there can be other special budgets. The apportionment of contributions to a special budget is determined according to its purpose.

131. In 2000, the total expenditure under the General Budget was £877 512, and in 2001 the General Budget was £888 533. The General Budget approved for 2002 is £887 300. An outline of the income and expenditure for these three years is given in Annex 5. The ICES Special Budget was DKK 860 238 for 2000, and DKK 986 390 for 2001 and is DKK 986 390 for 2002.

132. The accounts of the OSPAR Commission are audited by the National Audit Office of the United Kingdom. All statements of accounts of the OSPAR Commission have been certified as presenting fairly the state of affairs of the OSPAR Commission and as having been properly prepared in accordance with the Financial Regulations of the Commission. The audit certificates have also stated that, in all material respects, the income and expenditure have been applied to the purposes intended by the Commission and that the financial transactions conform to the authorities which govern them. No observations have been made by the auditor.

annex 1

The Sintra Statement

WE, THE MINISTERS AND THE MEMBER OF THE EUROPEAN COMMISSION, meeting within the framework of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, in the year 1998, which was declared International Year of the Oceans by the United Nations, and during EXPO 1998, which is dedicated to the oceans as the common heritage of mankind,

EMPHASISE our commitment to take all possible steps to achieve our overall objective for the protection of the marine environment of the North-East Atlantic of preventing and eliminating pollution, protecting human health and ensuring sound and healthy marine ecosystems, and

COMMIT ourselves to pursuing this goal through the following actions to produce a sustainable approach to the marine environment of the OSPAR maritime area and thus protect this inheritance for the new millennium.

Continuity and progress

WE WELCOME the entry into force on 25 March 1998 of the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic.

WE WELCOME the continuity with the former Oslo and Paris Commissions that has been achieved through a Decision clarifying which decisions, recommendations and other agreements of the Oslo and Paris Commissions remain in force as a basis of the work of the OSPAR Commission.

WE RE-EMPHASISE the clear commitments to the application of the precautionary principle and the polluter-pays principle and to the identification of best available techniques (BAT) and best environmental practice (BEP), including, where appropriate, clean technology.

Ecosystems and Biological Diversity

WE STRENGTHEN the Convention's framework for the protection of the marine environment by the unanimous adoption of an Annex on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area. WE SHALL SEEK an early entry into force of this Annex.

WE RE-EMPHASISE our commitment, in implementing the new Annex, to protect and conserve the biological diversity of the maritime area and its ecosystems which are, or could be, affected as a result of human activities, and to restore, where practicable, marine areas which have been adversely affected.

To this end, the Commission will implement the strategy on the protection and conservation of the ecosystems and biological diversity of the maritime area and, in doing so, *inter alia*:

- assess a candidate list of human activities which may produce adverse impacts on the marine environment and its species, habitats and ecological processes other than through causing pollution;
- identify and prioritise those of the activities for which programmes and measures should be developed;
- identify those marine species, habitats or ecosystems that need to be protected, conserved or restored;
- promote the establishment of a network of marine protected areas to ensure the sustainable use and protection and conservation of marine biological diversity and its ecosystems;
- as a first step develop by 2003 the most necessary programmes and measures to achieve the purposes of the Annex.

Hazardous Substances

WE AGREE to prevent pollution of the maritime area by continuously reducing discharges, emissions and losses of hazardous substances (that is, substances which are toxic, persistent and liable to bioaccumulate or which give rise to an equivalent level of concern), with the ultimate aim of achieving concentrations in the environment near background values for naturally occurring substances and close to zero for man-made

synthetic substances. WE SHALL MAKE every endeavour to move towards the target of cessation of discharges, emissions and losses of hazardous substances by the year 2020. WE EMPHASISE the importance of the precautionary principle in this work.

To this end, the Commission will:

- implement our strategy progressively and with well-defined intermediate targets; this implementation will start from the OSPAR List of Chemicals for Priority Action which we have already agreed, including carrying forward the drawing up of programmes and measures by 2003 for the control of discharges, emissions and losses of the substances on that list, and their substitution with less hazardous or non-hazardous substances where feasible;
- develop a dynamic selection and prioritisation mechanism, in order to tackle first the substances and groups of substances which cause most concern, and use it to up-date by 2000 the current OSPAR List of Chemicals for Priority Action;
- identify and assess substances that, although not fulfilling all the traditional criteria of a hazardous substance give rise to equivalent concern, especially those that act as endocrine disruptors;
- develop the necessary programmes and measures within three years after agreeing on the need for OSPAR action on a substance or group of substances.

WE INVITE industry and other international organisations to join us in these efforts to achieve this target.

WE ACKNOWLEDGE the need to provide consumer and purchaser with information on hazardous substances in goods thereby promoting the reduction of risks from the use of such chemicals, and WE WILL DEVELOP, individually or jointly, further means for disseminating this information.

Radioactive Substances

WE WELCOME the announcements by the French and United Kingdom Governments that they wish to give up their possible future exemptions from the ban on the dumping of low-level and intermediate-level radioactive wastes. WE ARE GLAD to complete that ban through a unanimous Decision terminating the possible exemptions for France and the United Kingdom.

WE AGREE, in addition, to prevent pollution of the maritime area from ionising radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances. In achieving this objective, the following issues should, *inter alia*, be taken into account:

- legitimate uses of the sea;
- technical feasibility;
- radiological impacts to man and biota.

WE SHALL ENSURE that discharges, emissions and losses of radioactive substances are reduced by the year 2020 to levels where the additional concentrations in the marine environment above historic levels, resulting from such discharges, emissions and losses, are close to zero. WE SHALL PAY particular attention to the safety of workers in nuclear installations.

To this end, the Commission will:

- undertake the development of environmental quality criteria for the protection of the marine environment from adverse effects of radioactive substances and report on progress by the year 2003;
- continue to reduce radioactive discharges from nuclear installations to the marine environment by applying BAT;
- review activities which may give rise to concern of this kind, and assess them to identify and prioritise fields where action is required and develop the necessary measures.

WE NOTE the concerns expressed by a number of Contracting Parties about the recent increases in technetium discharges from Sellafield and their view that these discharges should cease. WE FURTHER NOTE that the UK Ministers have indicated that such concerns will be addressed in their forthcoming decisions

concerning the discharge authorisations for Sellafield. WE WELCOME the announcement of the UK Government that no new commercial contracts will be accepted for reprocessing spent fuel at Dounreay, with the result of future reductions in radioactive discharges to the maritime area.

WE SHALL TAKE STEPS, both nationally and in international discussions, to bring the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste into force as soon as possible.

Eutrophication

WE AGREE to eliminate eutrophication where it occurs in the maritime area from anthropogenic inputs and to prevent future occurrences.

To this end, to supplement the existing obligations and commitments of the Contracting Parties to address nutrient inputs, especially from urban and industrial waste-water and agriculture, the Commission will:

- apply the Common Procedure for the Identification of the Eutrophication Status of the Maritime Area to make an initial identification on non-problem areas by 2000 and complete the identification and characterisation of the eutrophication status of all parts of the maritime area by 2003;
- implement immediately the integrated target-oriented and source-oriented actions provided for areas already identified as problem areas with regard to eutrophication;
- as one of the main elements of the source-oriented actions promote good housekeeping in industry and sewage treatment and good agricultural practice, ecological agriculture and balanced fertilisation;
- agree by 2003 any additional programmes and measures needed to achieve by 2010 a healthy marine environment where eutrophication due to anthropogenic inputs does not occur;
- take preventive action in areas identified as potential problem areas with regard to eutrophication;
- review the status of areas identified as non-problem areas with regard to eutrophication if there is ground for concern that there has been a substantial increase in their anthropogenic nutrient load.

WE EMPHASISE the importance in combating eutrophication of relevant EC Directives and corresponding legislation of other Contracting Parties and WE AGREE that compliance with such legislation is of the utmost importance.

Offshore oil and gas

WE RE-EMPHASISE our commitment to prevent the sea being used as a dumping ground for waste, whether from the sea or from land based activities. WE ADOPT a Decision on the disposal of disused offshore installations in support of this. Under this Decision, all dumping of steel installations is prohibited. Derogations, subject to assessment and consultation under agreed procedures, may allow the footings of steel installations weighing more than 10,000 tonnes to remain in place. However, WE WILL STRIVE to avoid using such derogations for footings of steel installations, by returning to land for recycling and disposal all steel installations where it is safe and practicable to do so. Derogations will also be available for concrete installations. WE HAVE no plans to create new concrete installations in any new oil-field developments in the maritime area. Concrete installations will only be used when it is strictly necessary for safety or technical reasons.

The Commission will review this Decision from time to time in the light of developments, with the aim of reducing as fast and as far as possible the cases for which derogations from the general ban on sea disposal may be considered. To support this, WE SHALL PROMOTE

- research and development by industry and relevant Contracting Parties on techniques for reusing and dismantling disused offshore installations and returning them to land for recycling or final disposal;
- exchange of information between competent authorities of Contracting Parties, operators and contractors on such techniques;
- collaboration between operators of offshore installations in joint operations to decommission such installations.

WE AGREE that environmental goals should be set for the offshore oil and gas industry and improved management mechanisms established to achieve them. The Commission will adopt a strategy for this

purpose at its next meeting. In preparing this strategy, the Commission will consider how to address, *inter alia*:

- the use and discharge of hazardous substances, consistent with the Strategy with Regard to Hazardous Substances;
- discharges of oil from offshore installations, including that in produced water;
- reduction of emissions of substances likely to pollute the air.

Quality status report

WE NOTE progress on the preparation of the Quality Status Report on the marine environment of the North-East Atlantic, to be published in 2000. This is a major, ground-breaking task, since a comprehensive quality status report on this scale has not previously been produced. WE AGREE the special budget for the Commission's future work on this report, and WE LOOK FORWARD to establishing through it and the Joint Assessment and Monitoring Programme a sound, scientific basis for identifying and prioritising future tasks in an overall comparative approach.

Wider international cooperation

WE SHALL SEEK the cooperation in our work of other states within the catchment of the North-East Atlantic, especially the Czech Republic and the Russian Federation.

WE RECOGNISE that the North-East Atlantic is only a small part of the world's oceans and that many other international organisations make vital contributions to protecting the marine environment. WE SHALL CONTINUE to work nationally, within the OSPAR Commission, with other regional seas programmes, especially those for the Arctic Ocean, the Baltic Sea and the Mediterranean and with bodies such as the Convention on the Long-Range Transport of Air Pollution, to achieve the effective application, world-wide, of the recommendations of Chapter 17 (Oceans and All Seas) of Agenda 21 and the full implementation of the Global Programme of Action for the Protection of the Marine Environment against Land-Based Activities. WE ESPECIALLY WELCOME the extra support which the Netherlands Government has given for this purpose.

WE SHALL COOPERATE, especially in the work of the International Maritime Organization, to tackle threats to the marine environment from shipping through promoting better waste reception facilities and their more effective use including harmonised arrangements to remove economic, administrative or organisational incentives for ships not to use port waste reception facilities, through banning the use of tributyl-tin (TBT) antifouling treatments and replacing them with clean antifouling technologies, improved controls over the unintended transport of non-native species by ships, through measures to eliminate marine litter and through bringing into effect the new Annex VI to MARPOL controlling air pollution from ships.

WE SHALL CONTINUE AND INTENSIFY our cooperation with the international river organisations for the Rhine, Meuse, Scheldt and Elbe, in order to reduce further riverine inputs into the North-East Atlantic and to improve the important ecological relations between the rivers and the sea.

Follow-up

WE LOOK FORWARD to the greater involvement of non-governmental organisations in the work of the Commission as a result of the opening of committees and working groups to them as observers.

Finally, WE COMMIT ourselves to continuing involvement of Ministers and members of the European Commission in the work of the OSPAR Commission, in order to ensure proper political support and direction. WE SHALL THEREFORE ARRANGE another Ministerial Meeting of the Commission in 2003 based on a thorough review of progress in the implementation of the strategies and their effectiveness and the implications of the Quality Status Report 2000.

Sintra, 23 July 1998

annex 2

The OSPAR List of Chemicals for Priority Action

(see endnotes)

Substance / group of substances	CAS No	EINECS No	IUPAC name	Identified at†	Lead country
*	85-22-3	201-593-0	benzene, pentabromoethyl	OSPAR 2001	not applicable
*	36065-30-2	252-859-8	benzene, 1,3,5-tribromo-2-(2,3-dibromo-2-methylpropoxy)-	OSPAR 2001	not applicable
2,4,6-tri-tert-butylphenol	732-26-3	211-989-5	phenol, 2,4,6-tris(1,1-dimethylethyl)-	OSPAR 2000	United Kingdom
4-tert-butyltoluene	98-51-1	202-675-9	benzene, 1-(1,1-dimethylethyl)-4-methyl-	OSPAR 2000	Germany
brominated flame retardants				OSPAR/ MMC 1998	Sweden
Cadmium				OSPAR/ MMC 1998	Spain
certain phthalates – dibutylphthalate and diethylhexylphthalate				OSPAR/ MMC 1998	Denmark & France
	77-47-4	201-029-3	1,3-cyclopentadiene, 1,2,3,4,5,5-hexachloro-	OSPAR 2000	The Netherlands
dicofol	115-32-2	204-082-0	benzenemethanol, 4-chloro-.alpha.-(4-chlorophenyl)-alpha.-(trichloromethyl)-	OSPAR 2000	Finland
endosulphan	115-29-7	204-079-4	6,9-methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide	OSPAR 2000	Germany
* EPN	2104-64-5	218-276-8	phosphonothioic acid, phenyl-, O-ethyl O-(4-nitrophenyl) ester	OSPAR 2001	not applicable
* flucythrinate	70124-77-5	274-322-7	benzeneacetic acid, 4-(difluoromethoxy)-.alpha.-(1-methylethyl)-, cyano(3-phenoxyphenyl)methyl ester	OSPAR 2001	not applicable
* heptachloronorbornene	28680-45-7 2440-02-0	249-153-7	bicyclo[2.2.1]hept-2-ene, heptachloro-	OSPAR 2001	not applicable
hexachlorocyclohexane isomers (HCH)				OSPAR/ MMC 1998	Germany
HMDS	107-46-0	203-492-7	disiloxane, hexamethyl-	OSPAR 2000	France
* isodrin	465-73-6	207-366-2	1,4:5,8-dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1.alpha.,4.alpha.,4a.beta.,5.beta.,8.beta.,8a.beta.)-	OSPAR 2001	not applicable
lead and organic lead compounds				OSPAR/ MMC 1998	Norway
mercury and organic mercury compounds				OSPAR/ MMC 1998	United Kingdom

Substance / group of substances	CAS No	EINECS No	IUPAC name	Identified at†	Lead country
methoxychlor	72-43-5	200-779-9	benzene,1,1'-(2,2,2-trichloroethylidene)bis(4-methoxy	OSPAR 2000	Finland
musk xylene				OSPAR/ MMC 1998	Switzerland
*	32241-08-0	250-969-0	naphthalene, heptachloro-	OSPAR 2001	not applicable
*	1335-87-1	215-641-3	naphthalene, hexachloro-	OSPAR 2001	not applicable
*	2234-13-1	218-778-7	naphthalene, octachloro-	OSPAR 2001	not applicable
*	1335-88-2	215-642-9	naphthalene, tetrachloro-	OSPAR 2001	not applicable
*	1321-65-9	215-321-3	naphthalene, trichloro-	OSPAR 2001	not applicable
	51000-52-3	256-905-8	neodecanoic acid, ethenyl ester	OSPAR 2001	‡
nonylphenol/ethoxylates (NP/NPEs) and related substances				OSPAR/ MMC 1998	Sweden
octylphenol	140-66-9	205-426-2	phenol, 4-(1,1,3,3,tetramethylbutyl)-	OSPAR 2000	United Kingdom
organic tin compounds				OSPAR/ MMC 1998	The Netherlands
*	1825-21-4	-	pentachloroanisole	OSPAR 2001	not applicable
pentachlorophenol (PCP)				OSPAR/ MMC 1998	Finland
	603-35-0	210-036-0	phosphine, triphenyl-	OSPAR 2001	Germany
polyaromatic hydrocarbons (PAHs)				OSPAR/ MMC 1998	Norway
polychlorinated biphenyls (PCBs)				OSPAR/ MMC 1998	Germany & Belgium
polychlorinated dibenzodioxins (PCDDs) polychlorinated dibenzofurans (PCDFs)				OSPAR/ MMC 1998	} Denmark & Belgium
short chained chlorinated paraffins (SCCP)				OSPAR/ MMC 1998	Sweden
TBBA	79-94-7	201-236-9	phenol, 4,4'-(1-methylethylidene)bis[2,6-dibromo-	OSPAR 2000	United Kingdom
* tetrasul	2227-13-6	218-761-4	benzene, 1,2,4-trichloro-5-[(4-chlorophenyl)thio]-	OSPAR 2001	not applicable
Trichlorobenzene	87-61-6	201-757-1	benzene, 1,2,3-trichloro-	OSPAR 2000	Belgium (Flemish Region of Belgium) & Luxembourg
1,2,4-trichlorobenzene	120-82-1	204-428-0	benzene, 1,2,4-trichloro-	OSPAR 2000	
1,3,5-trichlorobenzene	108-70-3	203-608-6	benzene, 1,3,5-trichloro-	OSPAR 2000	
*	55525-54-7	259-695-6	urea, N,N'-bis[(5-isocyanato-1,3,3-trimethylcyclohexyl)methyl]-	OSPAR 2001	not applicable

Endnotes

† The substances in this list were identified at the following OSPAR Commission meetings:

OSPAR/MMC 1998: Agreement reference number 1998-16 (Annex 2 to the OSPAR Strategy with regard to Hazardous Substances);

OSPAR 2000: Agreement reference number 2000-10;

OSPAR 2001: Agreement reference number 2001-2.

* The identification of these substances and the consequent action required is explained in § 4.13 of the OSPAR 2001 Summary Record. In brief, these substances have rankings in terms of persistency, liability to bioaccumulate and toxicity which are of equal concern as the other substances on this list. However, to the best of OSPAR's knowledge, there is no current production or use in the OSPAR states. Therefore, every five years, commencing in 2003, Contracting Parties and, where appropriate, observers representing the chemicals industries should report to OSPAR:

a. whether they have found any evidence that these chemicals are being produced, used or discharged, and, if so, what that evidence is, and what action (if any) has been taken;

b. whether there have been any cases where applications have been made for approvals involving these chemicals, and, if so, what decision was taken.

‡ These substances have currently no lead country to further the work within OSPAR and will have to be considered at a later date.

annex 3

The Executive Summaries of the Background Documents on Brominated Flame Retardants, Nonylphenol/Nonylphenol Ethoxylates, Pentachlorophenol, Polycyclic Aromatic Hydrocarbons, Polychlorinated Biphenyls, and Short-Chain Chlorinated Paraffins

Certain Brominated Flame Retardants – polybrominated diphenyl ethers, polybrominated biphenyls, hexabromocyclododecane

Executive Summary

Brominated flame retardants are a diverse group of chemicals, whose common points are that they all contain bromine and are all use to retard the combustibility of commercial goods. Two substances – decabromodiphenyl ether (DecaDBE) and Tetrabromobisphenol A (TBBP-A; this will be the subject of a separate Background Document) – account for about 50% of world use of brominated flame retardants. Two other polybrominated diphenyl ethers (PolyBDE) – octabromodiphenyl ether (OctaDBE) and pentabromodiphenyl ether (PentaDBE) – are used commercially, but in much smaller quantities than DecaBDE. Hexabromocyclododecane (HBCDD) is also used in large volumes. Polybrominated biphenyls (PBB) have also been used, but production was stopped in September 2000. Some PolyBDE are toxic, especially those with smaller molecules. PentaDBE may disrupt the oestrogenic system. PBB have similar effects to polychlorinated biphenyls, and may also produce hypothyroidism. Some of these chemicals are bioaccumulated. Brominated flame retardants were given priority in the 1992 OSPAR Action Plan, and therefore included in 1998 in the List of Chemicals for Priority Action.

The quantities of PolyBDE used in the EU in 1994 were estimated as: DecaBDE (8 210 tonnes) as a general-purpose flame retardant, especially in polymers, polypropylene fabric and other textiles (other than clothing fabrics); OctaBDE (2 550 tonnes) in acrylonitrile-butadiene-styrene plastics (often used for casings of electrical and electronic equipment), nylon and other plastics and in adhesives and coatings; PentaBDE (125 tonnes) mainly in flexible polyurethane foam for furniture, as well as epoxy and phenolic resins, some polyesters and textiles. About 9 200 tonnes of HBCDD was used in the EU in 1999, 85% of it in polystyrene.

Since the products containing these chemicals are widely dispersed, their possible release from waste disposal routes may be of concern, together with their potential role in producing dioxins and furans during waste incineration. The degradation of DecaBDE to the more toxic and bioaccumulative lower levels of PolyBDE is also of concern. The overwhelming majority of samples of marine biota have not shown detectable quantities of DecaBDE; however, OctaBDE has been found in fish and molluscs (up to 325µg/kg wet weight) and PentaBDE has been found in fish and marine mammals (up to 7 700µg/kg in white-beaked dolphins). All these chemicals have been found in river or marine sediments.

Action so far has been mainly through voluntary commitments by industry within the framework of the OECD. The risk assessment for PentaBDE under the EC existing substances regulation has concluded that risk reduction measures are needed. The PolyBDEs are proposed to be included as priority hazardous substances in the list of priority substances under the EC Water Framework Directive.

The action recommended is: to support the inclusion of PBB in the draft EC Directive on Waste from Electrical and Electronic Equipment; to support early EC harmonised restrictions on PentaBDE; to await the completion of the EC risk assessment of OctaBDE, DecaBDE and HBCDD and seek appropriate risk-reduction strategies in the light of it; to support appropriate provision on PolyBDE in the draft EC Directives on Waste from Electric and Electronic Equipment and on Restrictions on Certain Hazardous Substances in Electric and Electronic Equipment; to develop an OSPAR monitoring strategy for these chemicals; to review by OSPAR in 2003 of the need for further OSPAR measures to supplement the eventual EC measures; and to ask other relevant international forums to take account of the background document.

Nonylphenol/Nonylphenol Ethoxylates

Executive Summary

Nonylphenol ethoxylates (NPEs) are part of the alkylphenol ethoxylate group of non-ionic surfactants. All NPEs degrade relatively easily to form short-chained NPEs and (particularly in anaerobic conditions) nonylphenol (NP). NP and short-chained NPEs are toxic to aquatic organisms. Since they are lipophilic, they accumulate in sewage sludge and sediments, and bioaccumulate in aquatic species. NP/NPEs also possibly have endocrine-disrupting properties. NP/NPEs were included in the 1992 OSPAR Action Plan, and were therefore added to the List of Chemicals for Priority Action in 1998.

NPEs are used as emulsifiers, dispersive agents, surfactants and/or wetting agents and are the primary source of inputs to the sea of NP and NPEs. The main users are the industrial, institutional and domestic cleaning sectors (30% of EU use). Other significant sectors are emulsion polymerisation (12%), textiles (10%), chemical synthesis (9%) and leather (8%). Estimated use in Western Europe in 1997 was 76 600 tonnes.

Concentrations in the environment have decreased significantly, at least in some areas, over the last 15 - 20 years. Levels of around 0,08 – 3,1 µg/l of dissolved NP and 0,09 – 5,2 µg/l total extractable NP have been found in a UK estuary. Levels of up to 9,5 mg/kg dry weight of NPEs have been measured in the livers of river fish.

The existing OSPAR measure is PARCOM Recommendation 92/8 on Nonylphenol-Ethoxylates which required the phasing out of the use of NPEs as cleaning agents for domestic uses (1995) and industrial uses (2000) and initiated further study on other uses of NPEs and similar substances. National initiatives have been taken in some OSPAR States on the use of NPEs in water-based paints, agricultural pesticides, and emulsion polymers. EC action on NPEs is being considered under the EC directive relating to the restriction on the marketing and use of certain dangerous substances and preparations, but no draft directive has yet been presented. NP is included on the draft list of priority hazardous substances under the EC Water Framework Directive.

The action recommended is: to support EC risk-reduction measures on NP/NPE use in agricultural pesticides and in emulsion polymers for the textile industry and coatings; to support an EC limit on NP/NPE concentrations in sewage sludge applied to agricultural soil; to develop and OSPAR monitoring strategy; to take action to prevent the substitution for NP/NPEs of other alkylphenols with similar properties; to consider whether OSPAR action is needed on the use of NP/NPEs in the offshore industry; a review by OSPAR in 2003 of the need for further OSPAR measures to supplement the eventual EC measures; and to ask other relevant international forums to take account of the background document.

Pentachlorophenol

Executive Summary

Pentachlorophenol (PCP) is an organo-chlorine compound (C_6HCl_5O) used mainly as a fungicide. Its salt, sodium pentachlorophenate (C_6Cl_5NaO – NaPCP), is used for similar purposes and readily degrades to PCP. The ester, pentachlorophenyl laurate (PCPL), is also used. All three substances are toxic, persistent and liable to bioaccumulate, although PCPL is less toxic by an order of magnitude. They need to be considered together. Priority was given to PCP in the 1992 OSPAR Action Plan, and it was therefore included in 1998 in the OSPAR List of Chemicals for Priority Action.

Production of PCP in the EU ceased in 1992. In 1996, 378 tonnes of NaPCP and 30 tonnes of PCP were imported from the USA; there may possibly be other imports from Asia. NaPCP is mainly used in France, Portugal and Spain, as a sapstain control agent to protect newly cut wood surfaces against fungal attack. 1-2 tonnes a year of PCP is used to a small extent as a wood-preservative, mainly in Ireland. Imported PCP is manufactured into PCPL in the UK; a little under 50% of the product is used in France and the UK, in roughly equal shares, mainly for rot-proofing textiles for military purposes; the rest is exported outside the EU. The other major sources of inputs of PCP, NaPCP and PCPL to the sea are waste textiles and timber that have been treated with PCP (incineration of such waste may give rise to problems with furans and dioxins) and contaminated sites such as former PCP-production plants or wood-preservation plants. Some evidence points to the production of PCP during natural combustion processes: it is unclear whether this could be significant.

Monitoring results are only available for PCP. During the period 1983 to 1997 there has generally been a decreasing trend in concentrations. Monitoring results suggest that concentrations in UK waters are higher than elsewhere. Even there, however, a 1993-1995 survey showed results the highest of which were no more than 10% of the environmental quality standard for PCP (2 µg/l), and the riverine and direct input

survey shows a continuing decrease from 1991 to 1999. No information is reported on concentrations in biota.

The marketing and use of PCP and its compounds was prohibited in the EC in 1991, except for the treatment of wood, impregnation of fibres and heavy-duty textiles not intended for clothing, as an ingredient in chemical synthesis and, under individual authorisations, *in situ* treatment of buildings of cultural or historic interest. Under an amendment of 1999, no substance or preparation placed on the market after September 2000 may contain more than 0,1% by mass of PCP and its compounds. France, Ireland, Portugal, Spain and the United Kingdom have the benefit until the end of 2008 of the possibility of derogations similar to, but more restrictive than, those under the 1991 prohibition.

The action recommended is: to urge the setting of stringent discharge limits for the remaining installations producing or using PCP or its compounds; to support EC action to ban after 2008 the import of products containing PCP or its compounds; to promote an information campaign by producers of products that contain, or used to contain, PCP or its compounds on the correct disposal of products containing PCP; to consider an OSPAR recommendation on the clean-up of PCP-contaminated sites; to develop a monitoring strategy for PCP; to initiate reporting to OSPAR on the remaining use of PCP and its compounds, and on their levels in imported products, concentrations of them in the environment, and the clean-up of contaminated sites; and to ask other relevant international forums to take account of the background document.

Polycyclic Aromatic Hydrocarbons

Executive Summary

Polycyclic aromatic hydrocarbons (PAHs) are a group of organic chemicals consisting of molecules with 3 or more fused benzene rings. They are toxic, and bioaccumulate especially in invertebrates. Although vertebrates metabolise them, PAHs are reactive compounds, and some are carcinogenic. OSPAR identified them in 1994 as requiring priority action, and they were therefore included in the 1998 OSPAR List of Chemicals for Priority Action.

PAHs are emitted from a wide variety of sources. Although the sources of greatest significance vary between countries, the dominant diffuse sources of inputs to the sea are: wood preservatives (creosote-treated timber), combustion of fossil fuel and biomass in fixed installations (particularly in small or older installations, including domestic stoves) and road traffic. The Söderberg technique in the primary aluminium industry and coatings of ships' hulls are major sources in at least some areas. Other sources include dredged materials, discharges from offshore installations, shipping and oil spills.

PAH concentrations in seawater vary widely, from 0,001 ng/l to 0,3 ng/l, but can reach 8 500 ng/l in estuaries and coastal areas. Sediment concentrations in estuaries can vary from 0,2 to more than 6 mg/kg (dry weight).

Existing OSPAR measures on PAHs concentrate on the aluminium industry and coatings of ships' hulls. EC Directives on integrated pollution prevention and control, on the incineration and land-filling of waste and on restrictions on the marketing and use of certain dangerous substances and preparations are also relevant. Controls are under development or discussion on domestic combustion units (CEN), creosote and road-vehicle fuels (EC). OSPAR is reviewing the situation on discharges of PAHs from the offshore industry.

The action recommended is: to continue planned work on aluminium plants and the offshore industry; to continue implementation reporting on relevant OSPAR measures and on dumped dredged material; to collect quantitative data for 2002/03 on discharges and emissions from major sources; to develop a monitoring strategy for PAHs; to monitor progress on the development of EC BAT reference documents; to invite the European Commission to take the recommendations in this background document into account in the formulation of relevant measures following the inclusion of PAHs as priority hazardous substances on the list of priority substances under the EC Water Framework Directive; to support EC action on the marketing and use of creosote-treated timber; to support CEN work on standards for combustion appliances; and to ask other relevant international forums to take account of the background document.

Polychlorinated Biphenyls

Executive Summary

Polychlorinated biphenyls (PCBs) are produced by introducing elemental chlorine into biphenyls. They have been a source of concern since the 1970s. They are toxic and, since they are hydrophobic, bioconcentrate particularly in fatty tissues. They can adversely affect reproduction, and may affect immune systems so as to make disease epidemics worse. The higher levels of the food web, especially fish-eating birds and marine

mammals, are particularly affected. OSPAR adopted measures on them in 1992, and therefore added them to the List of Chemicals for Priority Action in 1998.

PCBs have been produced commercially since 1929, both for “closed” uses, such as use as insulation and cooling fluids in transformers, dielectric fluid in capacitors and as hydraulic fluids, and for “open” uses, such as grouting and sealants and as plasticisers in paints. Production in Europe was stopped in the mid-1980s. Since then, the main sources have been losses from PCB-containing units, waste disposal, remobilisation of PCB-containing sediments and, to an unknown extent, formation as by-products in various thermal and chemical processes. In contaminated estuaries, concentrations in sediments can reach several hundred µg/kg (dry weight). In remote areas, the range found is 0,1 – 20 µg/kg (dry weight). Concentrations in biota can be as high as 1 900 µg/kg (wet weight). Emissions and concentrations have dropped since the 1970s, but concentrations may now be levelling off as remobilised sediments become the major source.

The main existing OSPAR measure on PCBs is Decision 92/3 on their phasing-out, which requires the destruction of all identifiable PCBs. EC Directives ban their use in open applications, as raw material and intermediates, and require PCBs to be inventoried and destroyed. The UN Economic Commission for Europe Protocol on Persistent Organic Pollutants (POPs) has a similar requirement for destruction, while the newly signed UNEP POPs Convention will ban PCB production and require destruction of stockpiles and careful handling of wastes.

The action recommended is: to support the development of an EC strategy to reduce the presence of PCBs and dioxins in the environment; to support the development of a CEN standard for analysis of PCBs in products and the use of this to establish a cut-off for PCBs in cable sheathings for recycling; to develop a monitoring strategy for PCBs as part of the revised Joint Assessment and Monitoring Programme; and to ask other relevant international forums to take account of the background document.

Short Chain Chlorinated Paraffins

Executive Summary

Short-chain chlorinated paraffins (SCCPs) are n-paraffins that have a carbon chain length of between (and including) 10 and 13 carbon atoms and a degree of chlorination of more than 48% by weight. They are very persistent and not biodegradable. They adsorb strongly to sludge and sediments. They are therefore very likely to bioaccumulate. They are carcinogenic. The OSPAR Action Plan in 1992 gave priority to action on them, and they were therefore included in the List of Chemicals for Priority Action in 1998.

SCCPs are mainly used as metal-working fluids, with other major uses being in paints, coatings and sealants and as flame-retardants in rubber and textiles. The main sources of inputs to the sea are therefore production sites for SCCPs and products containing them and metal-, leather- and rubber-working-sites where they are used.

Releases of EU-produced SCCPs from EU sites to water in 1994 were estimated at 1 784 tonnes a year, 95% of which was from metal-working sites. Substantial reductions in use have since been made. There are, however, no figures for releases from products or from imported SCCPs. Concentrations of SCCPs of 426 – 526 µg/kg have been found in Arctic marine mammals.

The existing OSPAR measure is PARCOM Decision 95/1, which required the phasing-out by the end of 1999 of the use of SCCPs as plasticisers in paints and coatings, as plasticisers in sealants, in metal-working fluids and as flame retardants in rubber, plastics and textiles, except for some uses in dams and mining where the end-date was the end of 2004. An EC Directive on a ban in metal-working fluids and leather finishing is under discussion. SCCPs are included in the list of priority substances and identified as priority hazardous substances under the EC Water Framework Directive.

The action proposed is: to support harmonised EC restrictions on SCCPs; the development of an OSPAR monitoring strategy for SCCPs; greater efforts to implement PARCOM Decision 95/1, including identifying uses not previously recognised, identification of acceptable alternatives, and avoidance of the use of unacceptable substitutes; to review by OSPAR in 2003 of the need for further OSPAR measures to supplement the eventual EC measures; and to ask other relevant international forums to take account of the Background Document.

annex 4

On- and Off-Site Injection

The disposal of drill cuttings and produced water has become a major concern for operators and environmental controls have been tightened by regulatory authorities. One of the techniques the industry has developed to overcome the disposal problem is to grind up the drill cuttings and then inject them into a subsurface formation where they are likely to remain for the indefinite future. Injection has also been used to dispose of or recycle produced water. The following paper concentrates on drill cuttings but the same principles, with exceptions made in the relevant sections apply to the injection of produced water. Few solutions are without some associated risks and the possible impact on the environment of this disposal route needs to be considered on a case by case basis. With the exception of transport, these risks should be similar for both on and off-site injection operations.

There are few reported problems associated with the disposal of drill cuttings by re-injection into subterranean formations. Of most concern from the environmental point of view is the contamination of shallow fresh water aquifers or breakthrough to surface, i.e. ground level or seabed. There is little reported evidence of such breakthroughs happening, a result, in part at least, of the target intervals selected being such that the fracture is contained by features such as sand intervals and stress contrasts. At shallow depths (<600m) the minimum stress is often vertical, and in such cases the fracture (if it extends so far) will then propagate horizontally rather than vertically, and consequently not breach shallower zones.

Problems may also arise through the intersection of an induced fracture with an existing well, or the intersection of a new well with a fracture generated by a previous disposal operation. In the former case the casings would generally be expected to be adequate, and if a leak did occur this should be apparent on the well's annulus pressure and could be controlled by ceasing disposal operations and bleeding off any excess pressure. This risk is usually minimised by appropriate selection of the disposal location, e.g. distant with suitable directions for the minimum stress. The risk associated with the penetration of an open disposal fracture when drilling a new well is considered fairly minor. In essence the impact and response would be similar to that for a high pressure water influx (kick) and controlled by normal methods.

There is some risk that the integrity of the disposal well will fail during the operation. Any such failure should quickly be apparent as a discontinuity on the injection pressures, the operation would then cease and the volumes lost would be small. Investigations of the well head (the most environmentally critical item) indicate that wear is likely to be small so the risk in any event is relatively small. Poor quality cement jobs are another area of concern since these can allow channelling of injected material around the well. Careful monitoring of both the cementing operation and subsequent injection pressures is crucial.

One potential problem area is the impact of natural faults. The response in these circumstances is less predictable, and in particular regions of hard rocks should be avoided. Softer rocks which tend to flow would not have the same problem and would be expected to shield disposal intervals.

Although the probability of environmental contamination occurring is small, consideration also needs to be given to the impact of any such contamination. However, chromatographic retention of sensitive substances by clays and shales in the formations is likely to be strong. One risk which is not generally considered is the generation of H2S in the injected material after disposal. This may result in unexpected levels of H2S if a disposal fracture is intersected by another well or if other contamination does occur. There are, however, well developed techniques to both avoid and minimise such contamination.

If contamination of a shallow aquifer does occur in the North Sea region it is unlikely to present a significant hazard. The geological and hydrological conditions are such that flow from the point of contamination to land is very unlikely. As in all aspects of potential contamination, each case needs to be considered on its own merits. The contamination of possible potable water sources would not always be so improbable in locations closer to land or with a different geological situation.

Simulation of the disposal operation for a generic situation representative of the Northern North Sea region confirms the conclusions of previous studies that environmental contamination is unlikely. A conclusion confirmed, at least by those reported, by the results of drill cuttings re-injection operations in the region. In essence, with the particular geology, it is difficult to assign realistic rock mechanical parameters which will allow a fracture to propagate close to seabed. The vertical propagation of the fracture is usually terminated by sand layers with significant leak-off. To obtain fracture growth close to surface, regions of low stress with zero permeability and exceptionally high stiffness are required. This scenario is very unlikely in much of the OSPAR area although it may be possible in certain localities. For this reason the guidance listed below should be followed.

Although environmental contamination from drill cuttings or produced water (re-)injection is considered unlikely in much of the OSPAR area, this may not be generally the case. Specific situations should always be investigated before disposal operations commence. It is recommended that in all cases the situation for the proposed disposal well should be simulated and subsequently monitored. Sensible precautions would include:

- Modelling of the situation to obtain an understanding of the main features which will affect the fracture growth and the associated characteristics, and making predictions of injection characteristics for subsequent monitoring and comparison.
- Careful monitoring the quality of any cementing around any well to be used for injection.
- Monitoring the injection parameters (rates and pressures) and comparing with predictions. When deviations are observed operations would need to cease, at least until it was firmly established that the deviation did not indicate undue vertical propagation of the fracture.
- During disposal operations the annulus pressures of nearby wells should be monitored to check for possible fracture intersection with the well. Pressure increase from swelling of reactive clays should also be modelled and monitored.
- A review of the long term considerations should be made so that the risk to potential potable water sources would be established prior to any initiation of the disposal fracturing operations.
- Alternative disposal options for use on a contingency basis should be prepared.

annex 5

Outline of the Income and Expenditure of the OSPAR Commission

BUDGET FOR 2002

OSPAR Expenditure 2000 £		OSPAR Approved Budget 2001 £	OSPAR Approved Budget 2002 £
610 156	1 Staff Costs	624 700	604 675
41 582	2 Travel and Subsistence	45 000	45 000
11 604	3 Translation Services	20 000	15 000
69 185	4 Office Services	82 400	79 900
97 612	5 Accommodation and Equipment	100 000	126 925
990	6 Hospitality Expenses	1 000	1 100
4 952	7 Audit Fee	4 700	5 200
8 357	8 Management of CAMP data	9 500	9 500
844 438	ESTIMATED GROSS EXPENDITURE	887 300	887 300
2 542	Contribution to W.C.F.	1 233	0
846 980	**TOTAL BUDGET**	888 533	887 300

ANTICIPATED INCOME FOR 2002

Received Income 2000 £		Anticipated Income 2001 £	Anticipated Income 2002 £
850 032	Contributions from Contracting Parties	888 533	887 300
20 083	Bank interest received	14 000	14 000
1 651	Sales of publications	2 000	2 000