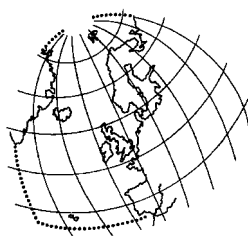


OSPAR Report on Discharges, Spills and Emissions from Offshore Oil and Gas Installations in 2003

*including assessment of data reported
in 2002 and 2003*



OSPAR Commission
2005

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 Community and Spain.

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par la Communauté européenne et l'Espagne.

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Executive Summary

Since 1978, discharges and waste handling from offshore oil and gas installations have been addressed and regularly reported under the former Paris Convention (PARCOM) and under the OSPAR Convention. Since the beginning of the 1990s air emissions from these installations have also been reported.

This report presents in Part A of Section 3 the discharges, spills and emissions data from offshore installations for 2003. The cumulative data are presented in Part B of Section 3. Section 2 presents the assessment of the data reported for 2002 (OSPAR publication number 207) and 2003, and the trends.

The *production of hydrocarbons* in OSPAR's maritime area increased by 4% between 1999 and 2001, but decreased by 1,5% both in 2002 and 2003.

The total quantity of *dispersed oil (aliphatic oil) discharged* to the sea (from produced water, displacement water and accidental spillage) continued to decrease and was 9 209 tonnes in 2002 and 8 998 tonnes in 2003, compared to 9 782 tonnes in 2001.

As in previous years, *produced water and displacement water* are the main contributors to the oil discharges from offshore oil and gas activities, representing 97,6 % of the total amount of oil discharged to the sea in 2002, but only 90,8 % in 2003 due to exceptional accidental spillages. Flaring is a minor source of oil discharges.

The total amount of produced water and displacement water discharged daily shows a slight increase over the past years. The *quality of the water discharged* (expressed as content of dispersed oil in the water discharged) has remained more or less stable over recent years. The annual average dispersed oil content in produced water in 2003 was 19,1 mg/l, well below the current performance standard for dispersed oil of 40 mg/l for produced water discharged into the sea.

The *number of installations which exceeded the 40 mg/l performance standard* for dispersed oil in produced water remained stable in 2001-2003 (23 in 2001, 20 in 2002, 22 in 2003). Despite the efforts made to reduce the number of installations which have poor records, there are still every year new installations which do not meet the performance standard. The discharge of *organic phase drilling fluids* (OPF) has further decreased over the reporting period. The 2003 discharge represented 4% compared to the oil discharged through produced water.

Since 2001 *use and discharge of chemicals* have been regulated by OSPAR. The first reporting year for which all major contributors provided data was 2003. The total quantity of chemicals used offshore in 2003 was 768 000 tonnes, out of which less than 0,04 % is on the OSPAR List of Chemicals for Priority Action (LCPA). The total quantity of chemicals discharged into the sea was roughly 275 000 tonnes, almost 89% of this is chemicals on the OSPAR list of substances/preparations used and discharged offshore which are considered to pose little or no risk to the environment (PLONOR). Discharge to the sea of chemicals on the LCPA was 0,75 tonne, and discharge of chemicals of "equivalent concern" reached 16,6 tonnes.

An increasing trend in *atmospheric emissions* has been identified in the past. During the last five years the picture seems to have changed slightly:

- SO₂ has decreased;
- methane, NO_x and CO₂ have remained more or less stable;
- non-methane VOC has decreased in 2002 and 2003 after a significant increase in the past. This change seems to be related to the quantities of oil loaded offshore.

Récapitulatif

Depuis 1978, les rejets et le traitement des déchets des installations pétrolières et gazières offshore ont été abordés et régulièrement notifiés en vertu de l'ancienne Convention de Paris (PARCOM) ainsi que dans le cadre de la Convention OSPAR. Les émissions atmosphériques de ces installations ont aussi été notifiées depuis le début des années 1990.

En Partie A de la section 3 du présent rapport, il est fait état des données des rejets, des déversements et des émissions des installations offshore en 2003. Les données cumulées sont présentées en Partie B de la Section 3. La Section 2 présente l'évaluation des données communiquées au titre de 2002 (Numéro de publication OSPAR 207) et de 2003, de même que les tendances.

Dans la zone maritime d'OSPAR, la *production d'hydrocarbures* a augmenté de 4% de 1999 à 2001, mais a en revanche diminué de 1,5% tant en 2002 qu'en 2003.

La quantité totale d'*hydrocarbures dispersés (hydrocarbures aliphatiques)* rejetés à la mer (dûs à l'eau de production, à l'eau de déplacement et aux déversements accidentels) a continué de baisser, et s'est élevée à 9 209 tonnes en 2002 et à 8 998 tonnes en 2003, par rapport à 9782 tonnes en 2001.

Comme les années précédentes, *c'est l'eau de production et l'eau de déplacement* qui sont les principaux contributeurs aux rejets d'hydrocarbures dus aux activités pétrolières et gazières en offshore, et représentaient 97,6 % de la quantité totale d'hydrocarbures rejetés à la mer en 2002, quoique seulement 90,8 % en 2003 en raison de déversements accidentels exceptionnels. Le brûlage à la torchère n'est qu'une source mineure parmi les rejets d'hydrocarbures.

La quantité totale d'eau de production et d'eau de déplacement rejetée par jour a légèrement baissé ces dernières années. La *qualité de l'eau rejetée* (exprimée en teneur en hydrocarbures dispersés dans l'eau rejetée) est restée plus ou moins stable ces dernières années. En 2003, la moyenne annuelle de la teneur en hydrocarbures dispersés dans l'eau de production s'est élevée à 19,1 mg/l, moyenne nettement inférieure à la norme actuelle de performance, soit 40 mg/l, dans le cas des hydrocarbures dispersés dans l'eau de production rejetée à la mer.

Le *nombre d'installations qui ont dépassé la norme de performance de 40 mg/l* applicable aux hydrocarbures dispersés dans l'eau de production pendant la période de 2001 à 2003 est resté stable (23 en 2001, 20 en 2002, 22 en 2003). En dépit des efforts accomplis pour réduire le nombre d'installations aux résultats médiocres, il existe encore tous les ans des installations neuves qui ne répondent pas à la norme de performance. Les rejets de *fluides de forage à phase organique (OPF)* ont de nouveau baissé pendant la période objet du rapport. En 2003, les rejets ont représenté 4% des hydrocarbures rejetés avec l'eau de production.

Depuis 2001, *l'utilisation et les rejets de produits chimiques* sont réglementés par OSPAR. La première année de notification au titre de laquelle tous les gros contributeurs ont communiqué des données fut 2003. La quantité totale de produits chimiques consommés en offshore en 2003 s'est élevée à 768 000 tonnes, produits chimiques dont moins de 0,04% sont inscrits sur la Liste OSPAR des produits chimiques devant faire l'objet de mesures prioritaires (LCPA). La quantité totale de produits chimiques rejetés à la mer s'est élevée à environ 275 000 tonnes; près de 89% de cette quantité est constituée de produits chimiques inscrits sur la liste OSPAR des substances/préparations utilisées et rejetées en offshore, considérées comme ne présentant guère de risque pour l'environnement, voire aucun (Liste PLONOR). Les rejets à la mer de produits chimiques inscrits sur la LCPA se sont élevés à 0,75 tonne, tandis que les rejets de produits chimiques suscitant des "préoccupations équivalentes" ont atteint 16,6 tonnes.

Une tendance à la hausse des *émissions atmosphériques* a été décelée dans le passé. Au cours des cinq dernières années, la situation semble avoir légèrement évolué:

- Le SO₂ a baissé;
- Le méthane, le NO_x et le CO₂ sont restés plus ou moins stables;
- Le VOC hors méthane a baissé en 2002 et en 2003, après avoir sensiblement augmenté par le passé. Cette évolution paraît liée aux quantités d'hydrocarbures chargés en offshore.

1. Introduction

1.1 Programmes and measures

The Offshore Oil and Gas Industry Strategy (Offshore Strategy) 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.

As its timeframe, the Offshore 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.

The Offshore 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 following the identification of relevant human activities.

In doing so, the Offshore Strategy requires the Commission to collect information about threats to the marine environment from pollution or from adverse effects from offshore activities; establish priorities for taking action; and establish and periodically review environmental goals to achieve the Offshore Strategy's objectives.

As part of this process, the Commission should develop and keep under review programmes and measures to identify, prioritise, monitor and control the emissions, discharges and losses of substances which could reach the marine environment and which are likely to cause pollution. Regular reporting is therefore required in order to review progress towards the targets of the Offshore Strategy.

Since 1978, discharges and waste handling from offshore oil and gas installations have been addressed and regularly reported under the former Paris Convention (PARCOM) and under the OSPAR Convention. Since the beginning of the 1990s air emissions from these installations have been reported as well. The following relevant measures¹ are applicable under the OSPAR Convention:

Discharges contaminated with oil

- PARCOM Recommendation of a 40 mg/l Emission Standard for Platforms, 1986;
- Sampling and analysis procedure for the 40 mg/l target standard (reference number: 1997-16; currently under review);
- OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations;

Use and discharge of drilling fluids and cuttings

- OSPAR Decision 2000/3 on the Use of Organic-phase Drilling Fluids (OPF) and the Discharge of OPF-contaminated Cuttings;
- Guidelines for the Consideration of the Best Environmental Option for the Management of OPF-Contaminated Cuttings Residue (reference number: 2002-8);

Chemicals used and discharged offshore

- OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals;
- OSPAR Recommendation 2000/4 on a Harmonised Pre-Screening Scheme for Offshore Chemicals;
- OSPAR Recommendation 2000/5 on a Harmonised Offshore Chemical Notification Format (HOCNF);

and a whole suite of Other Agreements concerning guidance on test methods and completing data sets, and lists of chemicals that will contribute to the implementation of these measures.

1.2 Annual reporting and biannual assessments

In 1978, Contracting Parties to the former Paris Convention initiated reporting on discharges and waste handling from offshore oil and gas installations. These data were submitted by Contracting Parties and compiled by the Secretariat and, following examination by the relevant subsidiary bodies, published by the Commission in the form of annual reports; at first as part of the Commission's general annual report,

¹ All measures referred to in this chapter can be downloaded from the OSPAR website www.ospar.org (under "Offshore Oil and Gas Industry").

and from 1992 onwards in annual reports on discharges of oil in the Convention area. From 1999 onwards, the annual reports (starting with 1996 and 1997 data) also contain an assessment of discharges, spills and emissions including a description of the trends from the beginning/mid of the 1980s until the date of the report.

Over time, reporting requirements and formats for data collection were regularly reviewed and updated in the light of ongoing work under the Commission as regards offshore installations. With a view to harmonising the way in which data and information are being established and reported, the Programmes and Measures Committee (PRAM) of the OSPAR Commission adopted in 1995 a reporting format and procedures, which set out the requirements for data and information to be provided by Contracting Parties. This reporting format was revised by the Offshore Industry Committee in 2002 for preparing on a trial basis the publication of a more detailed annual report starting with the 2001 data. After evaluation of its first application, the current 2002 reporting format (reference number: 2002-09) was confirmed to be used for the submission of data and information for the Annual OSPAR Report on Discharges, Spills and Emissions from Offshore Installations.

This report presents the discharges, spills and emissions data from offshore installations for 2003 and in the following section assesses the report for 2002 (publication no. 2004/207) and for 2003.

2. Assessment of data reported

Remarks:

1. *The production of hydrocarbons decreased by 1,5% both in 2002 and in 2003².*
2. *Some data used in this assessment may slightly differ from data previously published by OSPAR. This is due to the fact that the checking process effort made by contracting parties led to the detection of a few errors. Data used in this assessment report are the best available data at the time the report was written.*

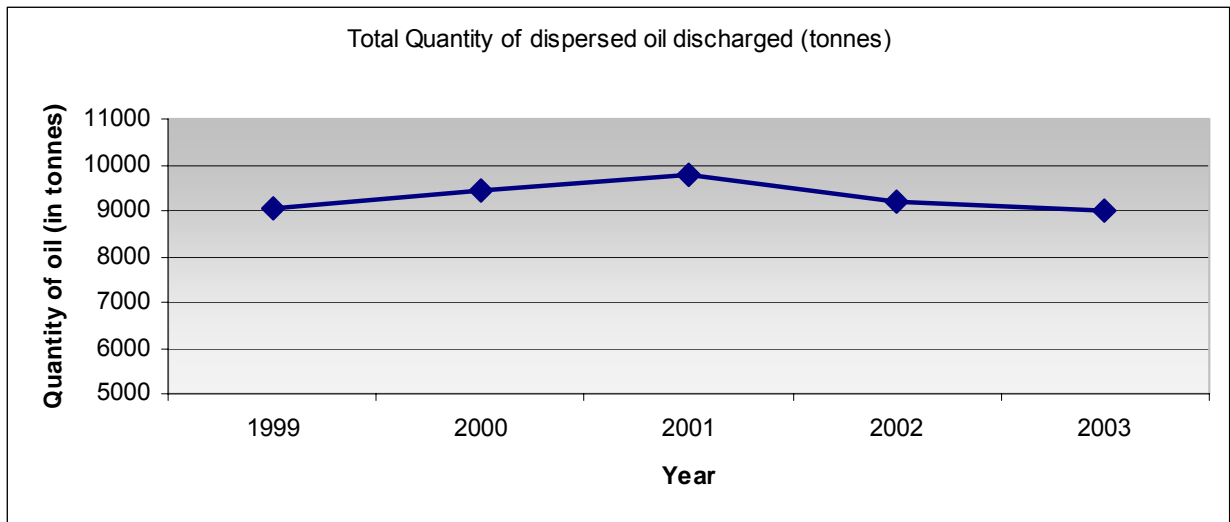
2.1 Discharges of oil and organic phase fluids into the sea³

The total **quantity of dispersed oil discharged** into the maritime area of OSPAR (resulting from discharges of produced & displacement waters, and from accidental spillage) was 9209 tonnes in 2002 and 8998 tonnes in 2003 *excluding* organic phase drilling fluids (OPF), compared to 9782 tonnes in 2001 (tables 3A, 7B & 7C⁴ of part B). Exceptional accidental spills in 2003 partly hide the significant decrease of the quantity of dispersed oil discharged by production & displacement waters between 2003 and 2002 (-9%). It confirms the inversion of the trend observed in 2002 (-2% between 2001 and 2002, compared to +3% between 2000 and 2001).

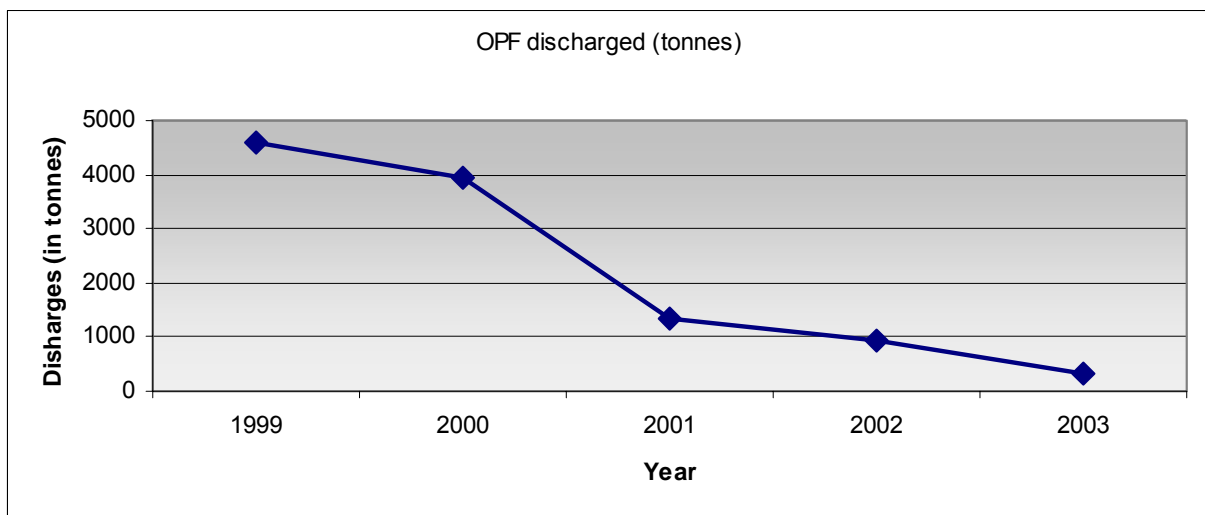
² 504 million tonnes of oil equivalent were produced in 2001, 497 in 2002, and 489 in 2003 (data reported by contracting parties).

³ Ireland was not able to submit data neither for 2002 nor for 2003. In 2001 Ireland produced 0,78 million tonnes of oil equivalent, and discharged less than 0,1 tonne of oil in the maritime area. As discharges are expected to have remained of the same order of magnitude in 2002 and 2003, they do not affect the overall assessment presented here.

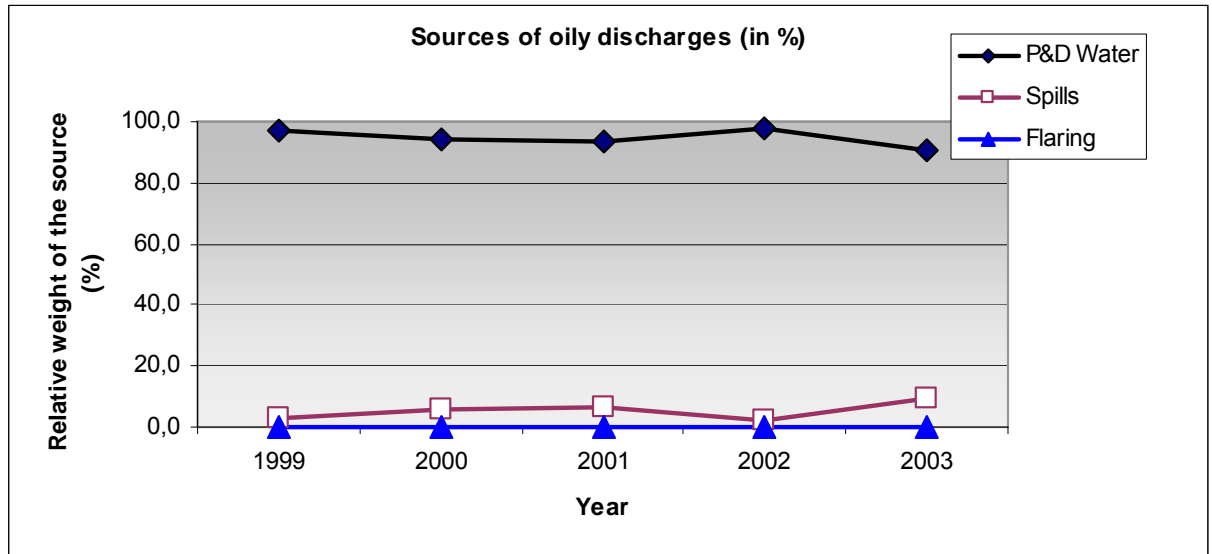
⁴ The numbering refers to the tables in the 1984-2003 cumulative report (part B of the OSPAR Report on Discharges, Spills and Emissions to Air from Offshore Installations, 2002-2003).



The amount of OPF discharged into the sea continues to decrease: 954 tonnes in 2002, 342 tonnes in 2003 (compared to 1 327 tonnes in 2001) (table 5 of part B). The 2003 discharge represented 4 %, compared to the oil discharged through produced water.



In addition to the discharge of OPF through drill cuttings, three **sources of oily discharges** are identified: produced & displacement waters (P&DW), spills and flaring operations. As in the previous years, P&DW are by far the main contributors. They represented 97,6 % of the total amount of oil discharged to the sea in 2002, but only 90,8 % in 2003 (due to the increase in spillage). Spillage is the second contributor, and flaring is really minor (table 7 of part B).



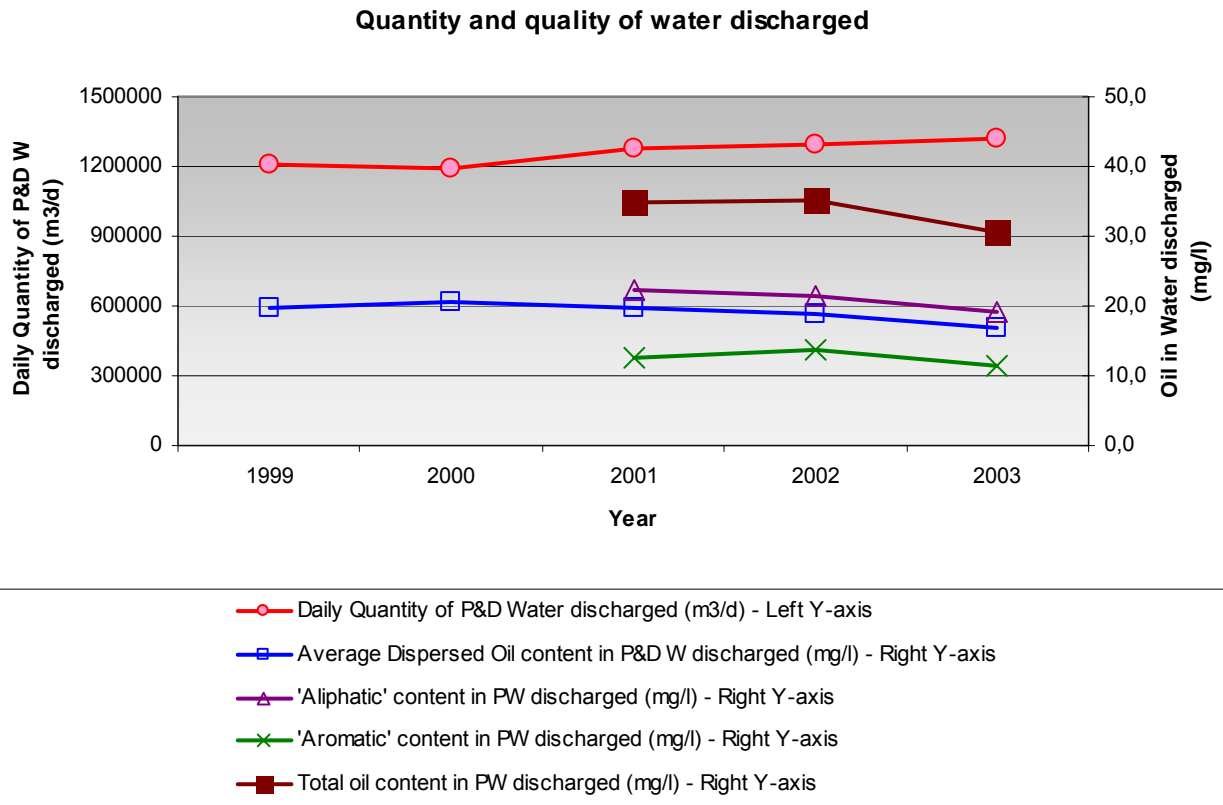
The **quality of the water discharged** (expressed in terms of content of dispersed/aliphatic hydrocarbons in the water discharged) remained more or less stable in 2002 but improved in 2003: its 2002 average was 19,0 mg/l for dispersed oil in produced & displacement water (P&DW), and its 2003 average 17,0 mg/l (compared to 19,7 mg/l in 2001) (table 3).

Split between production and displacement waters, and between “aliphatics” or “aromatics” in produced water discharged show that:

- (1) the average “aliphatic” content in produced water was only 19,1 mg/l in 2003 (21,4 mg/l in 2002),
- (2) “aromatics” roughly represent a third of the total oil discharged.

Remarks:

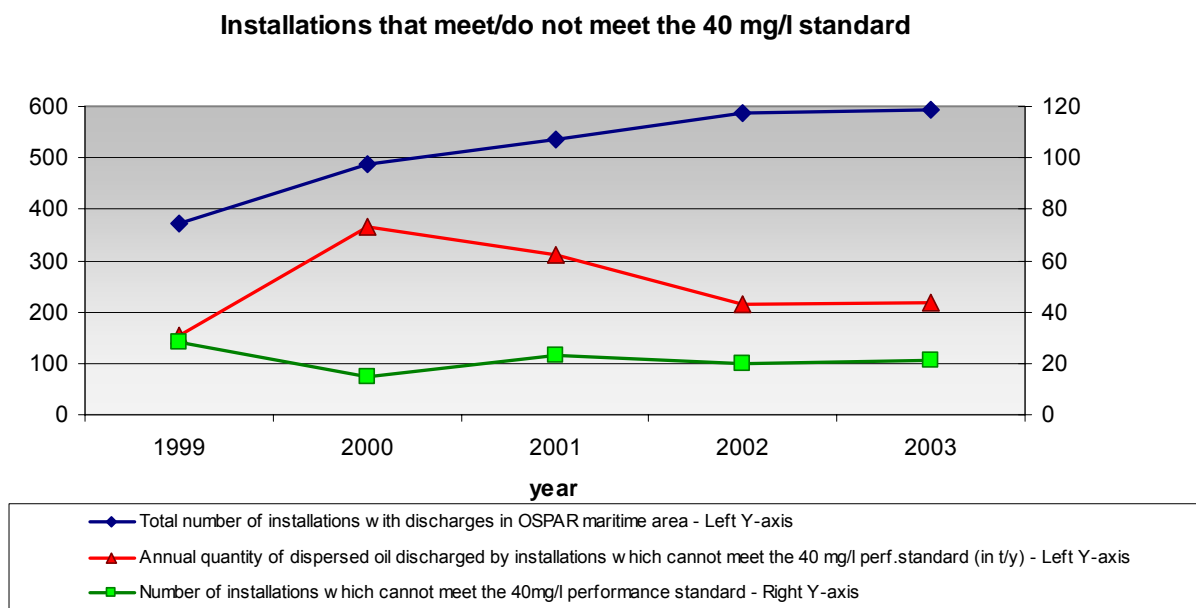
1. “Aliphatics” and “aromatics” are defined by the reference method set in OSPAR Agreement 1997-16 (Solvent extraction, Infra-Red measurement at 3 wavelengths). In that context, “aliphatics” and “dispersed oil” mean the same thing.
2. “Aliphatics” (or “dispersed oil”) are regularly and frequently measured, while the sampling frequency is much less for “aromatics”. Therefore data on “aromatics” are less reliable (at least for some contracting parties).
3. The average content of hydrocarbons in displacement waters is 8 to 10 times lower than their content in produced water.



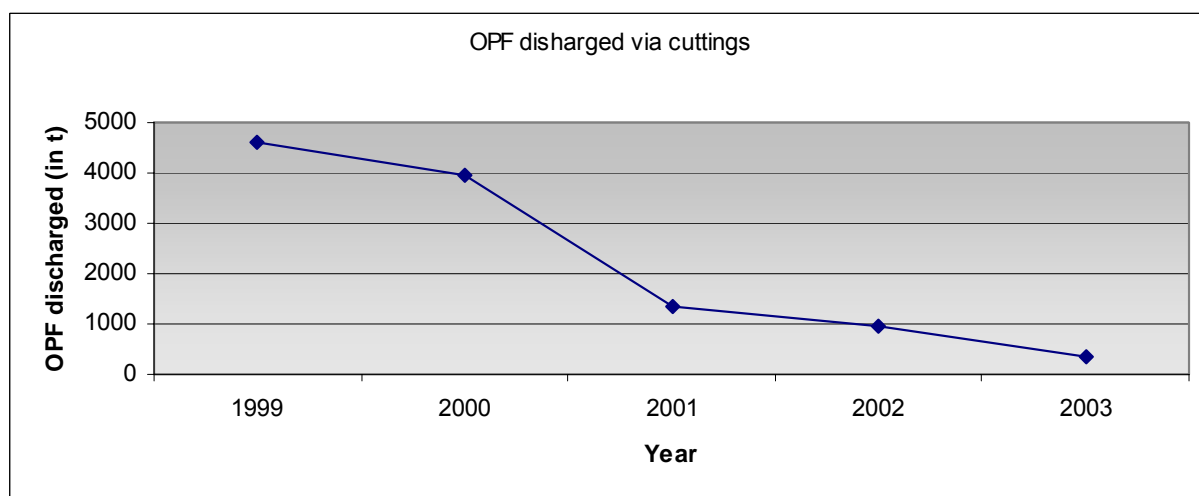
The number of installations which exceeded the 40 mg/l target standard for dispersed oil remained stable in 2002-2003: 20 in 2002, 22 in 2003, versus 23 in 2001 (table 4B of Part B). Meanwhile the *total quantity of hydrocarbons* discharged by these installations decreased from 312 tonnes in 2001 to 216 tonnes in 2002, and remained stable in 2003 (217 tonnes).

Remark: This overall picture does not reflect the wide spectrum of cases: in 2003, out of the 22 installations concerned, 12 discharged less than 2 tonnes; and only 4 over 10 tonnes. Some installations are still equipped with simple devices while other are equipped with significantly more sophisticated treatment units (e.g. hydrocyclones, filter coalescers) (table 3 of Part A).

It shows that despite the efforts made to reduce the number of installations which have poor records, there are still some installations which raise significant concern.



In 2002 and 2003, there has been no discharge of oil-based drillings fluids (OBM) and OBM contaminated cuttings. So the **oil discharged via cuttings** is entirely related to the use and discharge of non-OBM OPF. Due to the implementation of OSPAR Decision 2000/3, the hydrocarbons discharged *via* the use of OPF decreased from 1 327 tonnes in 2001 to 954 tonnes in 2002 and down to 342 tonnes in 2003 (table 5).



Spillage: 214 tonnes of oil were spilled in 2002, and 824 in 2003, compared to 605 in 2001. The bad record of 2003 is explained by the occurrence of a few significant spills, while 2002 data are the best ever recorded (table 7B part B).

Remark: "OSPAR Report on Discharges, Waste Handling and Air Emissions from Offshore Installations 2000-2001" wrongly mentioned 2001 as one of the best recorded year for spillage. In fact a significant spillage occurred in 2001 (450 tonnes) but the report omitted it.

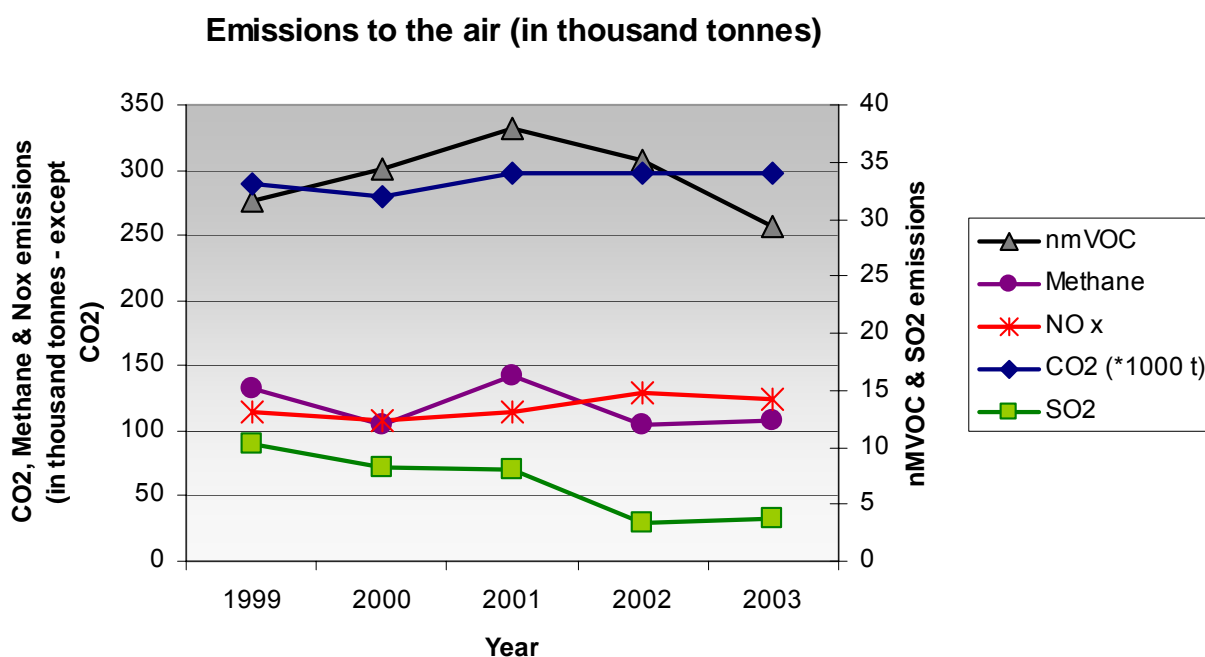
Flaring: flaring is a very minor contributor to the total discharge of oil, and is not covered by OSPAR measures, so far. Only 6 tonnes were reported in 2002, and 4,2 in 2003 (table 7C part B).

2.2 Chemicals

Since 2001 onwards, use and discharge of chemicals have been covered by OSPAR measures. Unforeseen difficulties arose, in particular in interpreting the categories for reporting, during the first reporting years, and 2003 is the first reporting year for which all major contributors provided data. But some contracting parties still face difficulties in reporting⁵. The total quantity of chemicals *used* offshore in 2003 is 768 000 tonnes out of which 76% weight are on the PLONOR⁶ list, 18 % ranked, less than 0,04 % on OSPAR List of Chemicals for Priority Action (LCPA) or equivalent concern (248 tonnes) (table 10A of part B). Total quantity of chemicals discharged into the sea is roughly 275 000 tonnes (table 10B), almost 89 % being listed on the PLONOR list (mainly weighting agents for muds), and most of the rest being subject to ranking (9,6 %). Discharge to the sea of chemicals listed on LCPA is 0,75 tonne, in addition to which discharge of chemicals of "equivalent concern" reaches 16,6 tonnes. Comparison between year 2003 and years 2001-2002 is hampered by the poor quality of the data reported for the first two years, but it nevertheless indicates a decrease in the discharge of the most harmful chemicals.

Spillage: In addition 1520 tonnes of chemicals were accidentally spilled in 2003, compared to 478 tonnes in 2002 and 418 tonnes in 2001. The increase in the 2003 figures is the result of a few significant incidents. The most important ones relate to accidental spillages of water based drilling muds (498 t) and of oil-based drilling mud (230 t). Other spillages included chemicals on the PLONOR list (over 290 t) and chemicals in the ranking process (over 225 t).

2.3 Emissions to air



Emissions to air are not covered by OSPAR measures. Consistency in the data reported has undoubtedly improved over the past few years. But for many reasons the quality of the data is still poor, and one must remain cautious with the conclusions which can be drawn up when variations are only of a few percents.

⁵ Ireland, Norway and The Netherlands did not provide data on the use of chemicals in 2002. Ireland and The Netherlands were also unable to report on the discharge of chemicals for 2002. Regarding 2003, Ireland was the only country unable to provide the data. The Netherlands provided partial data.

⁶ PLONOR list: OSPAR list of substances/preparations used and discharged offshore which are considered to **Pose Little OR NO Risk** to the environment (OSPAR Agreement 2004-10).

An increasing trend of all releases into air had been identified in the past. During the last five years, the picture seems to have slightly changed:

- SO₂ significantly decreased until 2003;
- Methane, NO_x and CO₂ remain more or less stable;
- Non methane VOC (nmVOC) decreased in 2002 and 2003, after a significant increase in the past. This change seems to be related to the quantities of oil loaded offshore.

In interpreting these changes, one must take into account two factors which have a direct influence on atmospheric emissions: (1) the change of production (increase of 4 % between 1999 and 2001, followed by a decrease in 2002 and 2003), and (2) the ageing of the fields, which globally induces a higher consumption of energy (e.g. additional compression) which, in return, leads to increase atmospheric emissions. These factors may partly hide the effect of the measures taken to reduce air emissions.

3. Results

Part A: Report relating to 2003 data

Part B: Cumulative Report

3.1 General information

The continental decimal system is used throughout this report (with a space as 1000 separator and a comma as decimal separator) with one decimal number after the comma.

NI means No Information available, i.e. unknown or missing data (data different from 0)

NA means Not Applicable, i.e. that the criteria is not relevant. For sums and totals, it is equivalent to 0.

3.2 Glossary

OP is the acronym for organic phase

Organic-phase drilling fluid (OPF) means an organic-phase drilling fluid, which is an emulsion of water and other additives in which the continuous phase is a water-immiscible organic fluid of animal, vegetable or mineral origin

Base fluid means the water immiscible fluid which forms the major part of the continuous phase of the OPS

Drilling fluid means base fluid together with those additional chemicals which constitute the drilling system

Oil-based fluids (OBF) means low aromatic and paraffinic oils and those mineral oil-based fluids that are neither synthetic fluids nor fluids of a class whose use is otherwise prohibited

Synthetic fluid means highly refined mineral oil-based fluids and fluids derived from vegetable and animal sources

Cuttings means solid material removed from drilled rock together with any solids and liquids derived from any adherent drilling fluids

Whole OPF means OPF not adhering to or mixed with cuttings

WBM is the acronym for water-based muds

Part A: Report relating to 2003 data

Table 1: Number of installations with emissions and discharges covered by OSPAR measures ^A

Year: 2003

Country	Production ^B		Subsea ^{E, 1}	Drilling ^F	Other ^G	Total
	Oil ^C	Gas ^D				
Denmark	12	0	0	7,33	0	19,33
France	0	0	0	0,1	0	0,1
Germany ¹	1	1	0	0,25	0	2,25
Ireland	NI	2	2	0,11	1	5,11
Netherlands	8	101	5	9,49	0	123,49
Norway	45	7	NI	8,7	2	62,7
Spain ²	0	0	0	0,2	1	1,2
United Kingdom	80	145	138	19	1	383
Total	146	256	145	45	5	597

A. Platforms are reported separately, even when they are joined by walkways or bridges.

B. Installations are reported as "Production" when production has started, even if drilling is still undergoing. Storage installations are considered as "Production".

C. Installations which produce oil and gas are considered as "oil installations".

D. Installations which produce gas and condensate are considered as "gas installations".

E. One installation per cluster of well heads.

F. Exploration & development drilling rigs with no simultaneous production only. The number is expressed in years-equivalent of activity.

G. Example: offshore underground storage.

¹ = The number of platforms increased by 0,25 because of drilling activities for 3 months.

² = Drilling activities are related to two exploration wells in the Cadix Gulf called Calipso Oeste 1 and Calipso Este 1. The "other" installation is an offshore underground storage unit (Gaviota)

Table 2: Produced water and displacement water

This table refers to all waters discharged to the sea (except cooling and sewage water) the quality of which should fit with OSPAR measures (cf. OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations). Drainage water is considered so far of such little consequence that there is no reporting requirement for OSPAR.

Year: 2003

Table 2A: Produced water ^A

Country	Total number of installations ^B	Annual quantity of water discharged ^C m ³	Annual average oil content (mg/l)			Total amount of oil discharged (tonnes)			Number of installations injecting water ^F	Annual quantity of water injected ^F m ³
			aromatics ^D	aliphatics ^D	total ^E	aromatics ^D	aliphatics ^D	total ^E		
Denmark	10	15 934 095	16,6	22,2	38,8	265	354	619	3	10 325 765
France	0	0	NA	NA	NA	0	0	0	0	0
Germany ¹	1	6 393	71,1	28,5	99,7	0,5	0,2	0,7	1	122 836
Ireland	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Netherlands	69	7 804 094	9	15	24	72	114	186	4	6 640 917
Norway	39	134 729 541	6,7	16,9	23,6	906	2 276	3 182	18	21 286 897
Spain	0	0	NA	NA	NA	0	0	0	1	799
United Kingdom	105	260 760 988	14	20	34	3 599	5 271	8 870	13	20 583 625
Total	224	419 235 111	11,6	19,1	30,7	4 843	8 015	12 858	40	58 960 839

A. "Produced water" means water which is produced in oil and/or gas production operations and includes formation water, condensation water and re-produced injection water; it also includes water used for desalting oil (Citation from OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations; definition of produced water).

B. Total number of installations discharging produced water.

C. Total quantity of produced water discharged to the sea during the year.

D. Aromatics and aliphatics are, by definition, the oily compounds measured according to the PARCOM procedure as described in OSPAR Reference document 1997-16 (IR, 3 or 1 wavelengths). Calculations are based on 1 or 3 wavelengths, depending whether it is aliphatics or aromatics which are to be reported.

E. Total = aromatics + aliphatics.

F. Produced water only (excluding sea water for pressure maintenance).

¹ The injected quantity of water increased due to production conditions.

Table 2B: Displacement Water ^A

Year: 2003

Country	Total number of installations ^B	Annual quantity of water discharged ^C m ³	Annual average oil content (mg/l)			Total amount of oil discharged (tonnes)			Number of installations injecting water ^F	Annual quantity of water injected ^F
			aromatics ^D	aliphatics ^D	total ^{E 1}	aromatics ^D	aliphatics ^D	total ^{E 2}		
Denmark	2	3 864 536	NI	1,1	NI	NI	4,2	NI	0	0
France	0	0	NA	NA	NA	0	0	0	0	0
Germany	0	0	NA	NA	NA	0	0	0	0	0
Ireland	NI	NI	NI	NI	0	NI	NI	0	NI	NI
Netherlands	1	0	NA	NA	NA	0	0	0	1	1 735 545
Norway	6	56 862 577	NI	2,6	NI	NI	146	NI	0	0
Spain	0	0	NA	NA	NA	0	0	0	0	0
United Kingdom	1	2 020 760	NI	2	NI	NI	5	NI	0	0
Total	10	62 747 873	NI	2,5	NI	NI	155	NI	1	1 735 545

A. "Displacement water" is the seawater which is used for ballasting the storage tanks of the offshore installations (when oil is loaded into the tanks, the water is displaced, and is discharged to the sea; when oil is downloaded to shuttle tanks, seawater is introduced into the storage tanks to replace the downloaded oil).

B. Total number of installations discharging displacement water.

C. Total quantity of displacement water discharged to the sea during the year.

D. Aromatics and aliphatics are, by definition, the oily compounds measured according to the PARCOM procedure as described in OSPAR Reference document 1997-16 (IR, 3 or 1 wavelengths). Calculations are based on 1 or 3 wavelengths, depending whether it is aliphatics or aromatics which are to be reported.

E. Total = aromatics + aliphatics.

F. Displacement water only (excluding sea water for pressure maintenance).

1. When no information is available on the annual average content of aromatics, total cannot be determined.

2. When no information is available on the total amount of aromatics discharged, total cannot be determined.

Table 3: Installations exceeding the 40 mg/l performance standard for dispersed oil

This table concerns installations for which the average annual oil content of the produced water discharged to the sea exceeds the 40 mg/l performance standard as defined in OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations

For explanation by Contracting Parties, see the Annex

Year: 2003

Country/ Installation ^A	Type of installation ^B	Type of water treatment equipment ^C	Quantity of water discharged during the year (10 ³ m ³)	Annual average oil content ^D (mg/l)			Total amount of oil discharged (tonnes per year) ^E		
				aromatics	aliphatics	total	aromatics	aliphatics	total
Denmark Gorm C	Oil	Hydrocyclone	896	7	58	65	6,0	52	58
Netherlands/K9-C-A	Gas	Cross Membrane Filter	4,2	240	54	294	1,0	0,2	1,2
Netherlands/K12-C	Gas	Centrifuge	8,6	37	53	89	0,3	0,5	0,8
Netherlands/K6N	Gas	HP-Filter Coalescer	0,6	38	51	89	0,1	0,1	0,2
Netherlands/L10-A	Gas	Centrifuge	39	84	55	139	3,3	2,1	5,4
UK BP Bruce	Oil	Hydrocyclones	2,8	65	46	111	0,2	0,1	0,3
UK BP (4 months)/Palladin (8 months) Montrose Alpha	Oil	Gravity Separator	786	14	45	59	11	36	47
UK/Talisman Buchan Alpha	Oil	Hydrocyclones	655	12	43	55	7,9	28	36
UK/Conoco Phillips - Nordic Apollo	Oil	Slops Tank	0,7	20	68	88	< 0,1	< 0,1	< 0,1
UK/BP Cleeton	Gas	Horizontal Gravity Separator	16	420	74	494	6,9	1,2	8,1
UK/Perenco (4 month)/BP (8 month) Inde 49/23-A	Gas	Horizontal Gravity Separator	47	30	1433	1463	1,4	67	68
UK/Perenco (4 month)/BP (8 month) Leman 49/27-A	Gas	Scrubbers and coalescer	10	15	596	611	0,2	6,1	6,3

Country/ Installation ^A	Type of installation ^B	Type of water treatment equipment ^C	Quantity of water discharged during the year (10 ³ m ³)	Annual average oil content ^D (mg/l)			Total amount of oil discharged (tonnes per year) ^E		
				aromatics	aliphatics	total	aromatics	aliphatics	total
UK/ BP Ravenspurn North	Gas	Three Phase Separator	8,6	333	728	1061	2,9	6,2	9,1
UK/Perenco (4 month)/BP (8 month) Trent 043/24	Gas	Coalescer and Degasser	1,2	20	58	78	< 0,1	< 0,1	0,1
UK/BP West Sole Alpha	Gas	Three Phase Separator	3,9	53	296	349	0,2	1,2	1,4
UK/BP West Sole Charlie	Gas	Three Phase Separator	8,9	23	57	80	0,2	0,5	0,7
UK/Centrica Storage Rough 47/3B	Gas	Oily Water Separator	18	11	315	326	0,2	5,7	5,9
UK/Mobile Thames	Gas	Tilted Plate Separator	49	14	103	117	0,7	5,0	5,7
UK/Shell Leman Alpha	Gas	Gravity Separator	11	20	138	158	0,2	1,5	1,7
UK/Shell Sean Papa	Gas	Gravity Separator	1,4	80	528	608	0,1	0,8	0,9
UK/Shell Solepit Clipper	Gas	Gravity Separator	11	20	228	248	0,2	2,6	2,8
UK/Tullow Hewett 48/29-A	Gas	Gravity Separator	0,4	6	74	80	< 0,1	< 0,1	< 0,1
Total			2 579	17	84	101	43	217	260

A. Name of the installation where the discharge took place.

B. Same categories as in table 1: Oil (O), Gas (G), Sub-sea (S), Other (oth) installations.

C. Piece of equipment at the outlet of which the oil content - exceeding 40 mg/l - is measured.

D. The annual average oil content is calculated on the basis of the total weight of oil discharged per year by the installation, divided by the total volume of produced water discharged during the same period.

E. The figures for Contracting Parties' total amount of oil discharged have been rounded up. The overall total value is the exact figure and may differ slightly from the sum of the Contracting Parties' total amount of oil discharged.

Table 4: Use and discharges of organic-phase drilling fluids (OPF) ^A

Year: 2003

Table 4A: Use and discharges of oil-based fluids (OBF) ^B

Country	Total amount of OBF used (tonnes)	Cuttings discharged to the sea			OPF cuttings injected		Cuttings transported to shore ^E (tonnes)
		Number of wells concerned	Average oil concentration on cuttings (g/kg)	Total amount of oil discharged ^C (tonnes)	Number of wells concerned	Total amount of cuttings injected ^D (tonnes)	
Denmark	17 336	0	0	0	3	3 248	8 961
France	0	0	NA	0	0	0	0
Germany ¹	2 261	0	0	0	0	0	2 804
Ireland	334	0	0	0	0	0	142,4
Netherlands	30 650	0	0	0	0	0	15 393
Norway	86 054	0	NA	0	91	110 231	49 676
Spain	0	0	0	0	0	0	0
United Kingdom	62 356	0	0	0	17	5 345	23 656
Total OBF	198 991	0	0	0	111	118 824	100 633

A. Organic-phase drilling fluid (OPF) means an organic-phase drilling fluid, which is an emulsion of water and other additives in which the continuous phase is a water-immiscible organic fluid of animal, vegetable or mineral origin.

B. Oil-based fluids (OBF) means low aromatic and paraffinic oils and those mineral oil-based fluids that are neither synthetic fluids nor fluids of a class whose use is otherwise prohibited.

C. Estimated amount of oil discharged to the sea, through the cuttings discharged.

D. Estimated amount of cuttings injected into disposal wells, excluding the water added for slurryfication.

E. Amount of cuttings transported to shore, for treatment and/or disposal.

¹ The total amount of OPF used and the amount of cuttings transported to shore increased because of an increase in drilling activities (2002: 1 well; 2003: 3 wells).

Table 4B: Use and discharges of non-OBF organic-phase drilling fluids (non-OBF OPF) ^A

Year: 2003

Country	Total amount of non-OBF OPF used (tonnes)	Cuttings discharged to the sea			OPF cuttings injected		Cuttings transported to shore ^D (tonnes)
		Number of wells concerned	Average organic phase concentration on cuttings (g/kg)	Total amount organic phase fluids discharged ^B (tonnes)	Number of wells concerned	Total amount of cuttings injected ^C (tonnes)	
Denmark	0	0	0	0	0	0	0
France	0	0	NA	0	0	0	0
Germany	0	0	0	0	0	0	0
Ireland	NI	1	NI	NI	0	0	NI
Netherlands	0	0	0	0	0	0	0
Norway	2 396	7	67	342	3	275	1 197
Spain	0	0	0	0	0	0	0
United Kingdom	1 097	0	0	0	2	898	0
Total non-OBF OPF	3 493	8	67	342	5	1 173	1 197
Grand Total OPF ^E	202 484	8	67	342	116	119 997	101 830

A. As defined in OSPAR Decision 2000/3 on the Use of Organic-phase Drilling Fluids (OPF) and the Discharge of OPF-contaminated Cuttings.

Organic-phase drilling fluid (OPF) means an organic-phase drilling fluid, which is an emulsion of water and other additives in which the continuous phase is a water-immiscible organic fluid of animal, vegetable or mineral origin;

Oil-based fluids (OBF) means low aromatic and paraffinic oils and those mineral oil-based fluids that are neither synthetic fluids nor fluids of a class whose use is otherwise prohibited;

B. Estimated amount of organic phase discharged to the sea, through the cuttings discharged.

C. Estimated amount of cuttings injected into disposal wells, excluding the water added for slurryfication.

D. Amount of cuttings transported to shore, for treatment and/or disposal.

E. Total OBF + non-OBF OPF.

Table 5: Accidental spillages

Year: 2003

Country	Total number of spills			Number of spills >1 tonne			Total amount spilled (tonnes)			Grand Total (tonnes)
	oil	chemicals ^A	flaring	oil	chemicals ^A	flaring	oil	chemicals ^A	flaring	
Denmark	84	1	0	2	1	0	18,8	2	0	21
France	0	0	0	0	0	0	0	0	0	0
Germany	0	1	0	0	0	0	0	<1	0	<1
Ireland	0	0	0	0	0	0	0	0	0	0
Netherlands	33	5	0	0	0	0	0,2	0,8	0	1
Norway ¹	132	134	12	11	60	1	737	1249	3,7	1990
Spain	0	0	0	0	0	0	0	0	0	0
United Kingdom ²	372	47	10	6	12	0	68	267	0,50	336
Total	621	188	22	19	73	1	824,0	1520	4,20	2348

A. Chemicals: all oil free spillages + non-OBF OPF drilling fluids spillages + oily WBM spillages (lubricant).

1. Flaring spillage is reported as fallout from well testing. 659 tonnes of the oil spillages are from two spillages at the Draugen field.

About half of the spillage of chemicals is from a few large accidents.

2. Chemicals spills include individual spills of 150 tonnes [sodium chloride], 28 tonnes [MEG], 25 tonnes[TEG], 20 tonnes[TEG] and 12,3 tonnes [hydraulic fluid].

Table 6: Emissions to air

Year: 2003

Country	CO₂^A (10³ tonnes)	NO_x^B (10³ tonnes)	nmVOCs^C (10³ tonnes)	CH₄^D (10³ tonnes)	SO₂ (10³ tonnes)
Denmark	2 196	5,3	8,1	7,4	0,36
France	NI	NI	NI	NI	NI
Germany	22,6	0,1	<0,01	0,01	<0,01
Ireland	58,88	0,14	0,00	27,04	0,00
Netherlands	1 269	6,61	4,7	18,7	0,17
Norway	11 397	50,3	165,2	31	0,6
Spain	34,1	0,07	0,1	0,33	0
United Kingdom	18 793	61,3	79,0	50,8	2,56
Total	33 771	124	257	135	3,7

A. CO₂ is carbon dioxide emitted, not the carbon dioxide equivalents of the various greenhouse gases. Carbon monoxide (CO) is not included.

B. NO_x is the sum of nitric oxide (NO) and nitrogen dioxide (NO₂) expressed as NO₂ equivalent. Nitrous oxide (N₂O) is not included as a component of NO_x.

C. VOCs (Volatile Organic Compounds) comprise all hydrocarbons, other than methane, released to the atmosphere.

D. CH₄ corresponds to the methane released to the atmosphere, from any source.

Table 7: The use and discharge of offshore chemicals**Year: 2003****Table 7a: Quantity of offshore chemicals used in kg/year**

Country	Prescreening Category ^A							Total
	Plonor ^B	"LCPA" ^C	Equivalent concern as "LCPA" ^D	LC ₅₀ or EC ₅₀ < 1 mg/l ^E	Biodegradation < 20 % ^F	Substances meet two of three criteria ^G	Ranking ^H	
Denmark ¹	60 382 417	606	32 007	128 622	1 813 142	1 341 775	28 646 471	92 346 386
France	526 654	0	0	0	0	0	3 025	529 679
Germany ²	1 098 862	0	0	2000	3239	1 132 505	361 531	2 598 137
Ireland	418 711	NI	NI	NI	19 594	246 655	12 317	697 277
Netherlands ³	31 899 171	302	0	0	4 279 111	3 918 807	3 809 425	45 984 013
Norway	237 163 000	844	216 800	0	3 450 000	4 023 000	79 178 000	324 031 644
Spain	1 272 695	0	0	0	0	0	16 950	1 289 645
United Kingdom ^{4, 5, 6}	255 774 970	2 090	0	0	8 240 728	9 836 007	27 483 033	301 336 828
Total	588 536 480	3 842	248 807	130 622	17 805 814	20 498 749	139 510 752	768 813 609

A. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals and the terminology used in this Recommendation.

B. Substance on OSPAR List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment (PLONOR) (Reference Number: 2004-10).

C. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). Previously called Annex 2 substances because it referred to Annex 2 of the OSPAR Strategy with regard to Hazardous Substances. This Annex 2 has now been replaced by the LCPA. (Reference Number: 2004-12)

D. Substance considered by the authority to be of equivalent concern for the marine environment as substances on the OSPAR List of Chemicals for Priority Action

E. Inorganic substance with LC₅₀ or EC₅₀ less than 1 mg/l.

F. Biodegradation of the substance is less than 20% during 28 days.

G. Substance meets two of the following three criteria:

I. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);

II. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;

III. toxicity LC50 < 10mg/l or EC50 < 10mg/l.

H. Substance does not fulfill the above mentioned criteria (1-7) and is therefore ranked according to OSPAR Recommendation 2000/4.

NOTE: Reporting of use and discharge of chemicals raises seriously difficulties, not all which have yet been solved; data therefore partly reflect the current situation.

¹ DK Total includes 1 346 kg of chemicals not pre-screened.

² The amount used increased because of drilling operations including discharges. (2002: only drilling without discharges).

³ The NL have a "no category" column with a figure of 2077047 and a "substances having no data" column with a figure of 150. "No category" means inorganic substances having a toxicity greater than 1 mg/l or are PLONOR like. "Substances having no data" means there is a lack of PBT data or the HOCNF formats are incomplete to categorise them according to the Pre-screening Scheme in the OSPAR Recommendation 2000/4.

⁴ For the UK, in the column "LCPA", lead from pipe dopes is reported here as a substance for priority action.

⁵ For the UK in the column "biodegradation < 20%" - as substance based toxicity data becomes available this figure is likely to increase.

⁶ For the UK in the column "biodegradation < 20%" - use figure heavily influenced by the increased use of OPF oil based drilling fluid. Discharge figure influenced by an increase in the use of H₂S scavenger.

Table 7b: Quantity of offshore chemicals discharged in kg/year

Year: 2003

Country	Prescreening Category ^A							Total
	Plonor ^B	"LCPA" ^C	Equivalent concern as "LCPA" ^D	LC ₅₀ or EC ₅₀ < 1 mg/l ^E	Biodegradation < 20 % ^F	Substances meet two of three criteria ^G	Ranking ^H	
Denmark ³	38 246 458	60	11 675	58 553	163 236	206 293	4 194 417	42 881 144
France	526 654	0	0	0	0	0	3 025	529 679
Germany ¹	517 593	0	0	0	3104	1372	19 944	542 013
Ireland	231 957	NI	NI	NI	3 818	0	3 424	239 199
Netherlands ²	10 920 587	271	0	0	64 041	11 368	157 936	11 496 141
Norway	78 976 000	240	4 910	0	331 000	293 000	10 977 000	90 582 150
Spain	976 450	0	0	0	0	0	3 450	979 900
United Kingdom	113 811 824	171	0	0	1 547 258	1 318 525	11 101 380	127 779 158
Total	244 207 523	742	16 585	58 553	2 112 457	1 830 558	26 460 576	275 029 384

A. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals and the terminology used in this Recommendation.

B. Substance on OSPAR List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment (PLONOR)

Reference Number: 2004-10).

C. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). Previously called Annex 2 substances because

it referred to Annex 2 of the OSPAR Strategy with regard to Hazardous Substances. This Annex 2 has now been replaced by the LCPA. (Reference Number: 2004-12)

D. Substance considered by the authority to be of equivalent concern for the marine environment as substances on the OSPAR List of Chemicals for Priority Action

E. Inorganic substance with LC₅₀ or EC₅₀ less than 1 mg/l.

F. Biodegradation of the substance is less than 20% during 28 days.

G. Substance meets two of the following three criteria:

I. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);

II. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;

III. toxicity LC₅₀ < 10mg/l or EC₅₀ < 10mg/l.

H. Substance does not fulfill the above mentioned criteria (1-7) and is therefore ranked according to OSPAR Recommendation 2000/4.

NOTE: Reporting of use and discharge of chemicals raises seriously difficulties, not all which have yet been solved; data therefore partly reflect the current situation.

¹ The amount discharged increased because of drilling operations including discharges (2002: only drilling without discharges).

² The NL have a "no category" column with a figure of 341923 and a "substances having no data" column with a figure of 15. "No category" means inorganic substances having a toxicity greater than 1 mg/l or are PLONOR like. "Substances having no data" means there is a lack of PBT data or the HOCNF formats are incomplete to categorise them according to the Pre-screening Scheme in the OSPAR Recommendation 2000/4.

³ DK Total includes 452 kg of chemicals not pre-screened

Part B: Cumulative Report

Part B: Cumulative Report

Table1: Number of installations in the OSPAR maritime area

Table 1A: Number of installations in the OSPAR maritime area with discharges to the sea, or emissions to the air, 1984-2003

Country	1984	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	7	20	20	20	10,5	8	8,23	9	12	15	16	16	19	17	19
France ¹	0	0	0	0	0	0	0,1	0	0	0	0	0	0	0	0,1
Germany	1	3	3	4	2	1	1	2	2	2	3	3	3	2	2
Ireland	1	2	2	2	0	0	0	4	5	2,2	2,5	2,5	4	4	NI
Netherlands	30	63	60	88	97	103,5	114,93	113,8	106,3	104,1	105	108	114	114	123
Norway	13	24	25	34	93	90	83	61	53	54	59	60	65	67	63
Spain	1	1	1	1	1	1,5	9	5	2	0	0	1	1	1	1
United Kingdom ²	90	79	79	79	81	152	169	193	164	218	186	298	332	381	383
Total	143	192	190	228	284,5	356	385,26	387,8	344,3	395,3	371,5	488,5	538	586	592

Table 1B ²: Total number of installations in the OSPAR maritime area, 1984-2203

	1984	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	NI	NI	NI	NI	320	438	459	554	520	560	587	591	NI	1070	1131 ³

¹ France had 1 exploratory well in 1995, and 1 in 2003.

² UK has revised its criteria for counting subsea installations as from 2000.

³ The increase of the number of installations from year 2002 is mainly due to the change of rules in counting the installations. The numbers given for 2003 reflect the current OSPAR database on offshore installations set up in accordance with OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations

Part B: Cumulative Report

Table 2: Number of installations by type of installation in the OSPAR maritime area with discharges to the sea, or emissions to the air, 1993-2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Oil	88	104	99	133	120	135	137	174	152	153	146
Gas	148	183	204	207	171	164	186	239	223	225	254
Subsea	6	6	75	5	6	87	44	6,5	81	120	143
Drilling	43	63	7	43	47	9	4	69	76	86	45
Other	0	0	0	0	0	0	0	0	5	2	4
Total	285	356	385	388	344	395	371	489	537	586	592

Part B: Cumulative Report

Table 3: Oily aqueous discharges to the maritime area

Table 3A: Oil discharged in displacement and produced water (in tonnes), 1984-2003

Country	1984	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2001	2002	2002	2003	2003
											Aromatics	Aliphatics	Aromatics	Aliphatics	Aromatics	Aliphatics
Denmark	57	36	72	138	129	164	127	174	180	271	205	290	192	294	265	358
Germany	NI	NI	0	0	0	0	0	0	0	0,045	0,32	0,22	0,42	0,17	0,50	0,20
Ireland	NI	NI	NI	NI	NI	0	0,005	0,02	0,042	0,245	NI	NI	NI	NI	NI	NI
Netherlands	76	262	239	265	231	249	265	204	162	189	82	252	57	148	72	114
Norway	154	460	613	1 009	1 402	1 750	2 332	2 492	2 750	3 047	1 101	3 153	1 165	2 827	906	2 422
Spain	0	0,065	NI	0	NI	0	0	0	0	0	0	0	0	0	0	0
United Kingdom	1 430	3 187	4 940	4 615	5 886	5 784	5 789	5 692	5 676	5 751	3 710	5 694	4 260	5 721	3 599	5 276
Total	1 717	3 945	5 864	6 027	7 648	7 947	8 513	8 562	8 768	9 258	5 098	9 390	5 674	8 990	4 843	8 170

Table 3B: Quantity of displacement and produced water discharged daily to the sea (in m3 / day), 1984-2003

Country	1984	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	NI	NI	NI	14 247	365 502	13 425	14 630	18 000	27 435	43 909	46 273	44 158	54 243
Germany				0		0	0	0	0	14	14	19	18
Ireland				NI		7	7,52	6,69	5	6	7	8	NI
Netherlands				35 105		35 214	33 895	30 303	25 000	31 820	38 117	24 263	21 381
Norway				316 029		412 283	438 779	462 969	442 225	461 323	493 342	490 826	524 910
Spain				NI		0	0	0	0	0	0	0	0
United Kingdom				512 657		567 540	642 973	693 151	716 130	652 188	696 482	738 082	719 950
Total				878 038		1 028 469	1 130 285	1 204 430	1 210 795	1 189 260	1 274 236	1 297 356	1 320 502

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Table 4: Installations which cannot meet OSPAR performance standards for dispersed oil in aqueous discharges^A

Table 4A^B: Number of installations with discharges exceeding the 40 mg oil/l performance standard, 1984-2003, and quantity of oil discharged by these installations (in tonnes)

	1984	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total number of installations with discharges in the Convention area	143	192	190	228	285	356	385	388	344	395	371	489	537	586	623
Number of installations exceeding 40 mg/l	12	70	68	65	64	59	46	45	32	39	28	15	23	20	22
Quantity of hydrocarbons ¹ discharged by these installations (tonnes)	601	2701	2027	4299	1017	1724	2429	840	607	420	153	365	312	216	217

1. "Dispersed oil", or aliphatics, as measured according to the PARCOM Procedure described in the "Methods of sampling and analysis for implementing the provisional target standard for discharges from oil and gas production platforms (OSPAR Reference document OSPAR 1997-16)

Table 4B^B: Number of installations with discharges exceeding the 40 mg oil/l performance standard, 1994-2003, by Contracting Party, and quantity of oil discharged by these installations (in tonnes)

Country	1994		1995		1996		1997		1998		1999		2000		2001		2002		2003	
	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged	Number of instal-lations	Amount dis-charged ^c	Number of instal-lations	Amount dis-charged ^c
Denmark	1	3	0	0	2	2	1	4	2	27	2	29	2	42	1	6	0	0	1	52
Germany	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Ireland	NI	NI	NI	NI	0	0	0	0	0	0	1	0,3	1	0,2	0	0	0	0	NI	NI
Netherlands	22	17	20	31	16	5	10	5	10	5	7	4	5	2	3	1	5	2	4	3
Norway	6	187	4	40	3	32	2	46	3	26	2	22	2	81	2	95	1	82	0	0
Spain	NI	NI	NI	NI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom	30	1 517	22	2 359	24	702	19	551	24	362	16	98	5	240	16	210	14	130	17	162
Total	59	1 724	46	2 430	45	741	32	606	39	420	28	153	15	365	23	313	20	216	22	217

A. The performance standard of 40 mg/l is defined on the basis of a monthly average. Most Contracting Parties, however, reported until 2000 only installations which exceeded the 40 mg/l performance standard on the basis of an annual average. From 2001 onwards, all the data is based on annual averages.

B. Data in Tables 4A and 4B refer to aliphatics only.

C. The figures for Contracting Parties' total amount of oil discharged have been rounded up. The overall total value is the exact figure and may differ slightly from the sum of the Contracting Parties' total amount of oil discharged.

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Table 5: Quantities of oil and other organic-phase fluids discharged via cuttings (in tonnes), 1984-2003

	1984	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Country	Oil & Diesel ¹	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil and OPF ² (Oil/OPF)	Oil and OPF ² (Oil/OPF)	Oil and OPF ² (Oil/OPF)	Oil and OPF ² (Oil/OPF)	Total OPF ^{2,3}	Total OPF ^{2,3}	Total OPF ^{2,3}
Denmark	676	507	0		0	0	0	0	31 (0/31)	0	0	0	0	0	0
Germany	NI	NI	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	NI	NI	NI	NI	NI	NI	0	0	0	0	NI	NI	NI	NI	NI
Netherlands	1 017	284	142	41	0	0	0	0	0	0	0	0	0	0	0
Norway	3 466	636	683	83	0	0	0	0	0	0	0	2 014	1 127	954	342 ⁴
Spain	0	0	0	0	0	0	NI	0	0	0	0	0	0	0	0
United Kingdom	19 800	12 312	11 225	7 169	4 588	4 582	3 865	3 965	7 203 (0/7203)	5 005 (0/5005)	4 591 (0/4591)	1 937 (0/1937)	200	0	0
Total	24 959	13 739	12 050	7 293	4 588	4 582	3 865	3 965	7 234 (0/7234)	5 005 (0/5005)	4 591 (0/4591)	3 951 (0/3951)	1 327	954	342 ⁴

¹ Diesel oil represents roughly 10% of total oil & diesel oil discharged in 1984. The discharge of diesel oil ceased in 1985.

² Some Contracting Parties reported the discharge of Organic Phased Fluids (formerly called Synthetic Based Muds). First number is the total Oil + OPF discharged; data in italics provide the split between both.

³ Total OPF is the sum of OBF and non-OBF OPF. No oil-based mud contaminated cuttings have been discharged in 2001 and 2002.

⁴ Exclusively non-OBF OPF (no OBF discharged in 2003)

Table 6: Use and discharge of OPF**Table 6A: Number of wells drilled with OPF, 1984-2000**

Country	1984 (1)	1990 (1)	1991 (1)	1992 (1)	1993 (1)	1999(2)		2000(2)	
	OBM	OBM	OBM	OBM	OBM	OBM	OPF	OBM	OPF
Denmark	13	20	21	22	32	8	NA	5	NA
Germany	0	1	1	0	0	4	0	3	0
Ireland	NI	4	0	0	NI	NI	NA	NI	NA
Netherlands	56	49	59	52	37	22	0	16	0
Norway	76	96	97	138	116	98	NA	NI	NA
Spain	NI	NI	NI	NI	NI	0	NA	0	NA
United Kingdom	290	314	425	372	336	0	166	133	NA
Total	435	484	603	584	521	132	166	157	NA

(1) data on OBM only for these years. Other OPF not yet in use.

(2) OPF (non-OBF OPF) was only reported on a voluntary basis.

Table 6B: Number of wells drilled with OPF, with discharge of contaminated cuttings to the maritime area, 2001-2003

Country	2001(2)		2002(2)		2003(2)	
	OBF	non-OBF OPF	OBF	non-OBF OPF	OBF	non-OBF OPF
Denmark	0	0	0	0	0	0
Germany	0	0	0	0	0	NI
Ireland	NI	NA	0	1	NI	NI
Netherlands	0	0	0	0	0	0
Norway	0	24	0	13	0	7
Spain	0	0	NA	N/A	NA	NA
United Kingdom	3	3	0	0	0	0
Total	3	27	0	14	0	7

(2) Wells for which all cuttings are re-injected or brought to shore are not taken into account in table 6.

Table 7: Spillage and flaring of oil**Table 7A: Number of oil spills (other than flaring), 1994-2003 - Spills less than 1 tonne (≤ 1 T) and spills > 1 T**

Country	1994		1995		1996		1997		1998		1999		2000		2001		2002		2003	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	105	10	126	1	105	1	71	2	110	0	99	4	69	4	79	0	58	2	82	2
Germany	NI	NI	NI	NI	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Ireland	NI	NI	NI	NI	0	0	0	0	1	1	NI	NI	NI	NI	0	0	0	0	NI	NI
Netherlands	82	2	0	61	63	2	63	1	60	0	16	1	27	0	35	1	24	0	33	0
Norway	349	7	281	14	246	9	245	10	249	15	226	12	198	5	221	7	238	9	121	11
Spain	NI	NI	NI	NI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom	136	21	129	9	276	19	304	24	366	11	347	11	406	12	408	17	454	16	366	6
Total	672	40	536	85	690	31	683	37	786	27	688	28	700	22	743	25	774	27	602	19

Table 7B: Quantity of oil spilled (flaring excluded), in tonnes, 1994-2003

Country	1994		1995		1996		1997		1998		1999		2000		2001		2002		2003	
	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T	≤ 1 T	> 1 T
Denmark	<26	10	<66	1	7,3	1,1	11,7	2,8	11	0	11	9	5,5	402,5	15	0	7	21	12	6,8
Germany	NI	NI	NI	NI	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Ireland	NI	NI	NI	NI	0	0	0	0	<1	0	NI	NI	NI	NI	0	0	0	0	NI	NI
Netherlands	<8,2	2	1,5	0	1	38	0,9	18	1,26	0	1	5,6	0,5	0	0,8	3,04	1	0	0,179	0
Norway	32	23	28	89	37	26	35,6	72,4	25	131	23	114	16	12	18,4	24,7	16,5	76,4	47	690
Spain	NI	NI	NI	NI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom ¹	17,8	155,2	19,2	64,5	80,9	45,1	34,1	828,9	36,9	97,1	42	77	38	36	33,5	509,1	31,24	60,46	21	47
Total	<84	190,2	<114,7	154,5	126,2	110,2	82,3	922,1	<74,2	228,1	77	205,6	60	453,5	68	537	56	158	80	744

1. Revised data for 2001: Pipeline leak investigated in 2001 resulted in operator being fined for a discharge of 450 tonnes of crude oil

Table 7C: Number of flaring operations, and quantity of oil spilled through flaring, in tonnes, 1994-2003

Country	Number of flaring operations										Quantity of oil spilled (tonnes)									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	1	2	0	4	5	3	0	0	0	0	4	0,1	0	NI	0,02	0,5	0	0	0	0
Germany	NI	NI	0	0	0	0	0	0	0	0	NI	NI	0	0	0	0	0	0	0	0
Ireland	NI	NI	0	0	1	NI	NI	0	0	NI	NI	NI	0	0	NI	NI	0	0	0	NI
Netherlands	0	0	2	2	0	0	0	0	0	0	0	0	0,01	0,01	0	0	0	0	0	0
Norway	NI	NI	0	NI	NI	NI	NI	NI	5	12	NI	NI	0	NI	NI	NI	6,1	14,1	0,8	3,7
Spain	NI	NI	0	0	0	0	NA	0	0	0	NI	NI	0	0	0	0	NI	0	0	0
United Kingdom	3	7	5	13	15	4	5	10	11	10	1,09	0,62	1,4	0,94	3,19	1,35	4	1,35	5	0,5
Total	4	9	7	19	21	7	5	10	16	22	5,1	0,7	1,4	1,0	3,2	1,9	10,1	15,45	5,8	4,2

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Table 8: Total discharges and spillage of dispersed oil, in tonnes, 1984-2003

Country	1984	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	763	543	81	178	196	172	173	185	201	679	305	322	377
Germany	0	NI	NI	NI	NI	NI	0	0	0	3	0	0	0
Ireland	0	NI	NI	NI	NI	NI	0	1	0,042	0,245	0	0	NI
Netherlands	1 153	546	285	275	232	288	284	205	169	190	256	149	114
Norway	3 900	1 096	1 491	1 064	1 519	1 813	2 440	2 648	2 887	3 075	3 210	2 921	3163
Spain	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom ¹	21 360	15 499	12 335	9 371	9 835	9 876	13 856	10 832	10 387	5 473	6 010	5 817	5345
Total	27 176	17 684	14 192	10 888	11 783	12 150	16 752	13 872	13 643	9 420	9 782	9 209	8998

A. Spillages are not taken into account for 1990.

B. From 1997-1999, UK data include OPF.

C. Total for 2000, 2001, 2002 and 2003 is the sum of tables 3a, 7b and 7c plus the OBF fraction of table 5

1. Revised data for 2001: Pipeline leak investigated in 2001 resulted in operator being fined for a discharge of 450 tonnes of crude oil

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Table 9: Emissions to air, 1992-2003

Country	CO ₂ (10 ⁶ tonnes)									
	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	NI	1,23	1,58	1,64	1,87	2,47	2,3	2,2	2,2	2,2
Germany	0,01	0,01	0,02	0,03	0,02	0,09	0,01	0,02	0,01	0,02
Ireland	NI	NI	0,10	0,025	0,11	0,1	0,09	0,08	0,07	NI
Netherlands	NI	1,22	1,11	1,19	1,59	1,29	1,20	1,33	1,33	1,27
Norway	7,5	8,1	8,9	8,47	9,34	9,38	10,09	11,1	10,79	11,40
Spain	0,86	NI	0,025	0,03	0	0	0,03	0,02	0,04	0,03
United Kingdom	79,36	20,46	15,9	19,1	20,9	19,8	18,3	19	19,9	18,79
Total	88	31	28	30	34	33	32	34	34	34

Country	NO _x (10 ³ tonnes)									
	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	NI	6,24	6,77	8,4	NI	13,6	12,3	5,35	5,30	5,30
Germany	0,12	0,05	0,08	0,10	0,04	0,13	0,07	0,06	0,04	0,08
Ireland	NI	NI	0,25	0,61	0,26	0,2	0,17	0,18	0,16	NI
Netherlands	NI	5,7	5,08	5,83	5,05	4,64	5,64	4,8	5	6,6
Norway	31,3	32	34,7	42,97	46,1	41	44,2	51	48,7	50,3
Spain	0,8	NI	0,113	0,14	0	0	0,11	0,04	0,08	0,07
United Kingdom	195,7	56,69	38,8	57,8	66,7	55,8	45,8	53,5	69,43	61,25
Total	228	101	86	116	118	115	108	115	129	124

Country	VOCs (10 ³ tonnes)									
	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	NI	1	1	1	NI	2	9	10	10	8
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	NI	NI	0	0	0	0	0	0	0	NI
Netherlands	NI	10	7	5	8	8	6	6	5	5
Norway	122	99	182	189	174	191	213	229	198	165
Spain	0	NI	0	0	0	0	0	0	0	0
United Kingdom	208	76	59	107	80	75	73	87	93	79
Total	331	185	249	302	262	276	301	332	307	257

Country	CH ₄ (10 ³ tonnes)									
	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	NI	2	2	3	5	2	3	10	7	7
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	NI	NI	1	1	3	16	1	25	0	NI
Netherlands	NI	55	41	25	21	20	15	16	13	19
Norway	11	13	26	29	26	29	29	34	32	31
Spain	1	NI	0	0	0	0	0	0	0	0
United Kingdom	226	70	56	79	72	65	56	57	52	51
Total	238	140	126	136	126	132	104	142	105	108

Country	SO ₂ (10 ³ tonnes)									
	1992	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	NI	NI	0,1	0,1	0,1	0,3	0,3	0,6	0,3	0,4
Germany	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Ireland	NI	NI	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0
Netherlands	NI	0,4	0,5	0,4	0,2	0,2	0,1	0,2	0,2	0,2
Norway	NI	0,2	0,3	0,0	0,6	0,1	1,4	0,9	0,8	0,6
Spain	NI	NI	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
United Kingdom	31,4	10,4	2,3	13,9	11,6	9,7	6,4	6,3	2,0	2,6
Total	31,4	11,0	3,2	14,4	12,7	10,3	8,2	8,0	3,3	3,7

Table 10: The use and discharge of offshore chemicals**Year: 2001-2003****Table 10a: Quantity of offshore chemicals used in kg/year**

Country	Prescreening Category ^A																								
	Plonor ^B			LCPA ^C			Equivalent concern as LCPA ^D			LC ₅₀ or EC ₅₀ < 1 mg/l ^E			Biodegradation < 20% ^F			Substances meet two of three criteria ^G			Ranking ^H			Total			
	2001	2002	2003	2001	2002	2003 ⁵	2001	2002	2003	2001	2002	2003	2001	2002	2003 ^{6,7}	2001	2002	2003 ⁸	2001 ³	2002	2003	2001 ^{1,4}	2002	2003 ⁸	
Denmark	92 514 186	72 358 514	60 382 417	0	900	606	46 056	40 437	32 007	18 164 615	85 194	128 622	1 041 714	1 324 413	1 813 142	1 695 332	1 353 975	1 341 775	16 890 132	29 776 007	28 646 471	130 352 035	104 939 440	92 346 386	
France	0	0	526 654	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3 025	0	0	529 679	
Germany	21 300	4 000	1 098 862	0	0	0	0	0	0	0	0	2 000	0	0	3 239	18500	20 337	1 132 505	55 700	84 900	361 531	95 500	109 237	2 598 137	
Ireland	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
NL	23 995 497	NI	31 899 171	2 042	NI	302	1 835 120	NI	0	260	NI	0	1 112 344	NI	4 279 111	919 017	NI	3 918 807	7 339 587	NI	3 809 425	35 203 867	NI	45 984 013	
Norway	NI	NI	237 163 000	NI	NI	844	NI	NI	216 800	NI	NI	0	NI	NI	3 450 000	NI	NI	4 023 000	NI	NI	79 178 000	NI	0	324 031 644	
Spain	0	NA	1 272 695	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	16 950	0	0	1 289 645	
UK	163 353 409	249 030 742	255 774 970	0	222	2 090	0	0	0	0	0	0	12 826 964	4 934 729	8 240 728	6 339 638	9 323 127	9 836 007	163 288 565	49 435 450	27 483 033	345 808 576	312 724 270	301 336 828	
Total	279 884 392	321 393 256	588 117 769	2 042	1 122	3 842	1 881 176	40 437	248 807	18 164 875	85 194	130 622	14 981 022	6 259 142	17 786 220	8 972 487	10 697 439	20 252 094	187 573 984	79 296 357	139 498 435	511 459 978	417 772 947	768 116 332	

A. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals and the terminology used in this Recommendation.

B. Substance on OSPAR List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment (PLONOR)
(Agreement Number: 2004-10).

C. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). Previously called Annex 2 substances because it referred to Annex 2 of the OSPAR Strategy with regard to Hazardous Substances. This Annex 2 has now been replaced by the LCPA. (Reference Number: 2004-12)

D. Substance considered by the authority to be of equivalent concern for the marine environment as substances on the OSPAR List of Chemicals for Priority Action

E. Inorganic substance with LC₅₀ or EC₅₀ less than 1 mg/l.

F. Biodegradation of the substance is less than 20% during 28 days.

G. Substance meets two of the following three criteria:

- I. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);
- II. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;
- III. toxicity LC₅₀ < 10mg/l or EC₅₀ < 10mg/l.

H. Substance does not fulfill the above mentioned criteria (1-7) and is therefore ranked according to OSPAR Recommendation 2000/4.

NOTE: Reporting of use and discharge of chemicals raises serious difficulties, not all of which have yet been solved; data therefore partly reflect the current situation and cannot be used for assessment.

¹ 2001: The total also includes 49 891 tonnes of offshore chemicals used by the Netherlands for which no sufficient information was available and could therefore not be placed under any particular category.

Footnotes 2, 3, 5, 6 and 7 refer to the UK:

² 2001: The majority of UK products do not currently have substance based toxicity data. This figure is therefore likely to increase as further data becomes available

³ 2001: The industry database used to record use and discharge data has been significantly modified since the implementation of the regulations in the UK.
Some products that could not be matched on the notified chemicals list due to syntax errors have been included here but will fall into other categories in future years

⁴ 2001: The Netherlands reported in 2001 49891 kg offshore chemicals used for which there is no sufficient information and therefore cannot be categorised.

⁵ 2003: UK: lead from pipe dopes is reported here as a substance for priority action.

⁶ 2003: UK: as substance based toxicity data becomes available this figure is likely to increase.

⁷ 2003: UK: Use figure heavily influenced by the increased use of OPF oil based drilling fluid. Discharge figure influenced by an increase in the use of H2S scavenger.

⁸ 2003: The NL have a "no category" column with a figure of 2077047 and a "substances having no data" column with a figure of 150. "No category" means inorganic substances having a toxicity greater than 1 mg/l or are PLONOR like. "Substances having no data" means there is a lack of PBT data or the HOCNF formats are incomplete to categorise them according to the Pre-screening Scheme in the OSPAR Recommendation 2000/4. **DK data** include 1346 kg of chemicals not pre-screened.

Table 10b: Quantity of offshore chemicals discharged in kg/year

Country	Prescreening Category ^A																							
	Plonor ^B			LCPA ^C			Equivalent concern as LCPA ^D			LC ₅₀ or EC ₅₀ < 1 mg/l ^E			Biodegradation < 20% ^F			Substances meet two of three criteria ^G			Ranking ^H			Total		
	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001 ²	2002	2003	2001 ^{3,4}	2002	2003	2001 ^{1,5}	2002	2003
Denmark ¹	51 541 713	50 619 400	38 246 458	0	300	60	9 861	7 211	11 675	156 968	43 443	58 553	200 844	166 387	163 236	347 438	332 519	206 293	5 009 968	4 580 064	4 194 417	57 266 792	55 749 324	42 881 144
France	0	0	526 654	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3 025	0	0	529 679
Germany	19 170	3 600	517 593	0	0	0	0	0	0	0	0	0	0	0	3 104	175	183	1 372	0	0	19 944	19 345	3 783	542 013
Ireland	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
NL	12 580 602	NI	10 920 587	145	NI	271	12 160	NI	0	1	NI	0	9 592	NI	64 041	5 703	NI	11 368	311 191	NI	157 936	12 919 394	NI	11 496 141
Norway	115 098 100	102 934 930	78 976 000	917	765	240	58 530	34 160	4 910	771	100	0	733 970	796 810	331 000	327 472	210 150	293 000	11 815 950	10 897 930	10 977 000	128 035 710	114 874 845	90 582 150
Spain	0	NA	976 450	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	3 450	0	0	979 900
UK	72 045 032	109 474 671	113 811 824	0	46	171	0	0	0	0	0	0	2 247 435	1 328 207	1 547 258	895 102	1 051 622	1 318 525	48 535 999	16 904 059	11 101 380	123 723 568	128 758 605	127 779 158
Total	251 284 617	263 032 601	243 975 566	1 062	1 111	742	80 551	41 371	16 585	157 740	43 543	0	3 191 841	2 291 404	2 108 639	1 575 890	1 594 474	1 830 558	65 673 108	32 382 053	26 457 152	321 964 809	299 386 557	274 790 185

A. According to OSPAR Recommendation 2000/4 on a Harmonised Pre-screening Scheme for Offshore Chemicals and the terminology used in this Recommendation

B. Substance on OSPAR List of Substances Used and Discharged Offshore which are Considered to Pose Little or no Risk to the Environment (PLONOR)

(Agreement Number: 2002-07).

C. Substance listed in the OSPAR List of Chemicals for Priority Action (LCPA) (including its updates). Previously called Annex 2 substances because

it referred to Annex 2 of the OSPAR Strategy with regard to Hazardous Substances. This Annex 2 has now been replaced by the LCPA. (Reference Number: 2004-12)

D. Substance considered by the authority to be of equivalent concern for the marine environment as substances on the OSPAR List of Chemicals for Priority Action

E. Inorganic substance with LC₅₀ or EC₅₀ less than 1 mg/l.

F. Biodegradation of the substance is less than 20% during 28 days.

G. Substance meets two of the following three criteria:

I. (biodegradation in 28 days less than 70% (OECD 301A, 301E) or less than 60% (OECD 301B, 301C, 301F, 306);

II. bioaccumulation log Pow > 3 or BCF > 100 and considering molecular weight;

III. toxicity LC₅₀ < 10mg/l or EC₅₀ < 10mg/l.

H. Substance does not fulfill the above mentioned criteria (1-7) and is therefore ranked according to OSPAR Recommendation 2000/4.

NOTE: Reporting of use and discharge of chemicals raises serious difficulties, not all of which have yet been solved; data therefore partly reflect the current situation and cannot be used for assessment.

¹ 2001: The total also includes 45 116 tonnes of offshore chemicals discharged by the Netherlands for which no sufficient information was available and could therefore not be placed under any particular category.

Footnotes 2, 3 and 4 refer to the UK:

² 2001: The majority of UK products do not currently have substance based toxicity data. This figure is therefore likely to increase as further data becomes available

³ 2001: The UK ranks all products excluding PLONOR and those for substitution. This figure represents the total amount of substances that do not fall into any of the other categories

⁴ 2001: The industry database used to record use and discharge data has been significantly modified since the implementation of the regulations in the UK.

Some products that could not be matched on the notified chemicals list due to syntax errors have been included here but will fall into other categories in future years

⁵ 2001: The Netherlands reported 45116 kg offshore chemicals used for which there is no sufficient information and therefore cannot be categorised.

⁶ 2003: The NL have a "no category" column with a figure of 341923 and a "substances having no data" column with a figure of 15. "No category" means inorganic substances having a toxicity greater than 1 mg/l or are PLONOR like. "Substances having no data" means there is a lack of PBT data or the HOCNF formats are incomplete to categorise them according to the Pre-screening Scheme in the OSPAR Recommendation 2000/4.

⁷ DK Total figure includes 452 kg of non-pre-screened chemicals

Figure 1: Number of installations in the OSPAR maritime area with discharges to the sea, or emissions to the air, 1984-2003

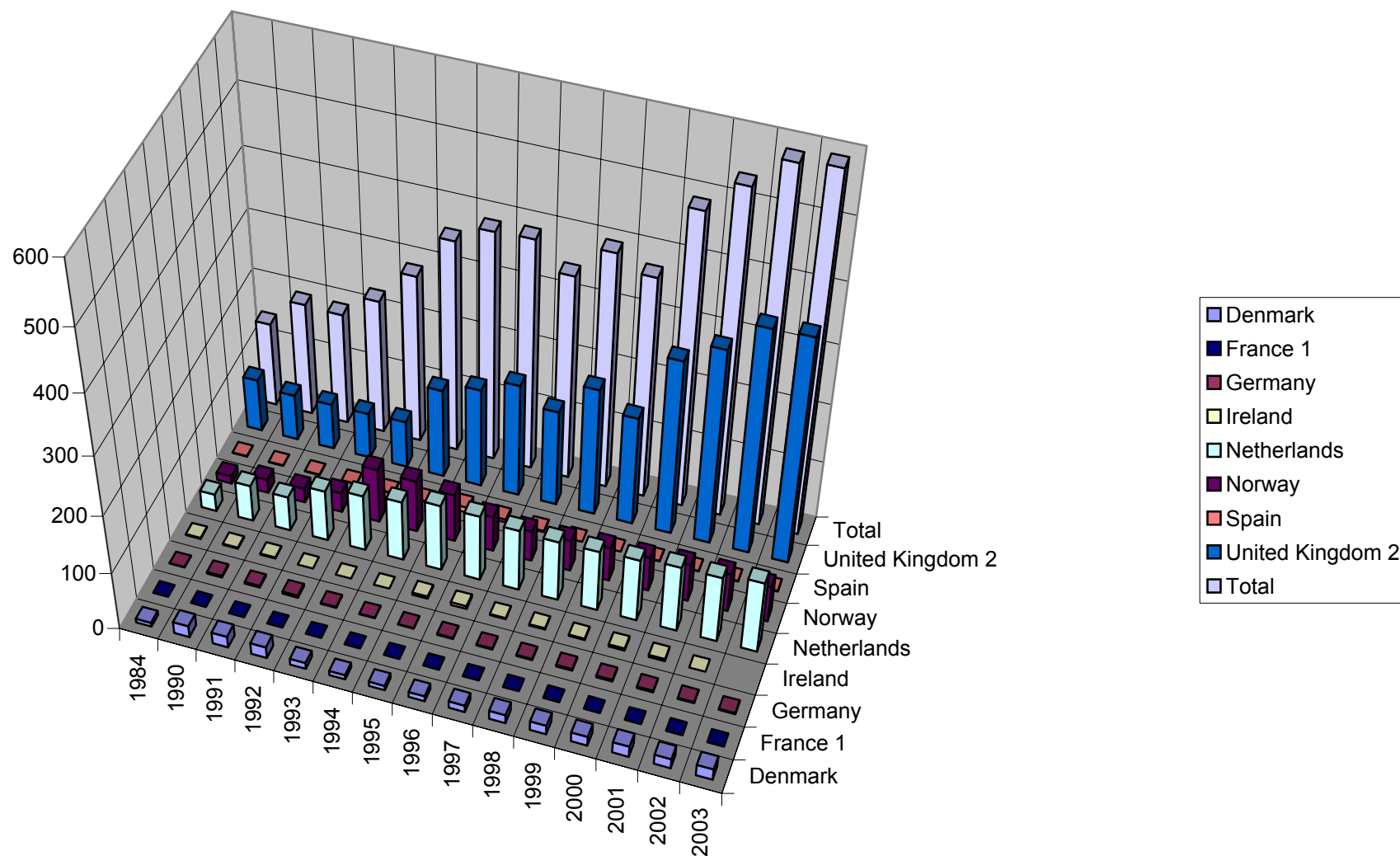


Figure 2: Total discharges and spillage of dispersed oil, in tonnes, 1984-2003

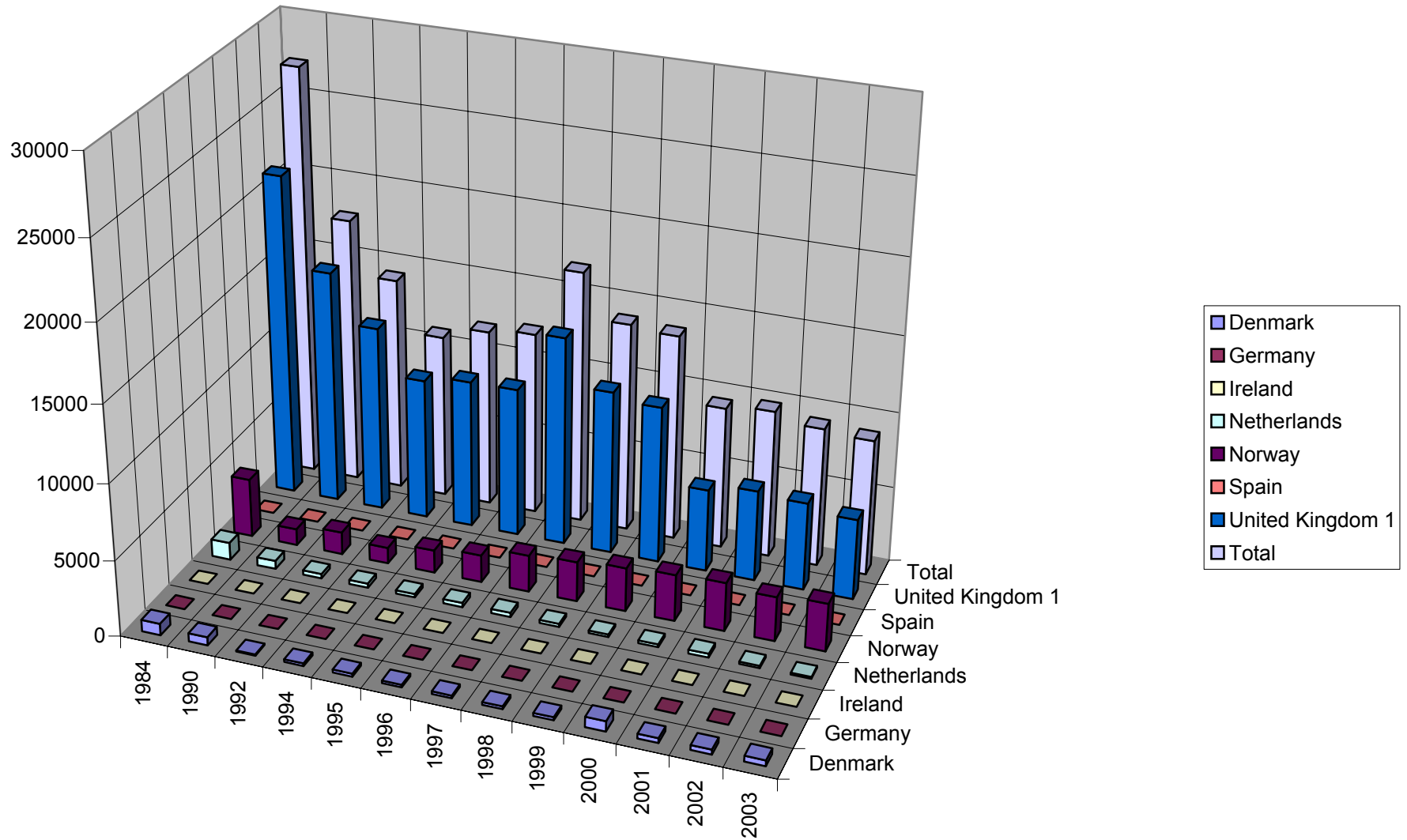
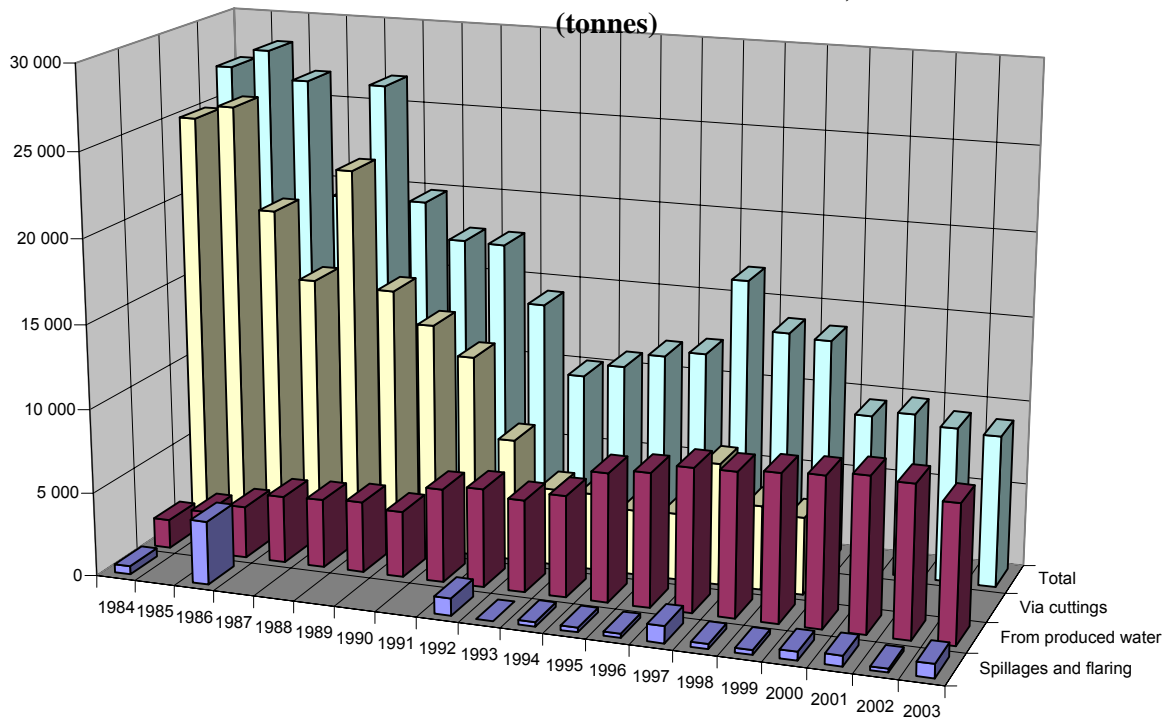


Figure 3: Contribution of different sources of inputs of oil and/or synthetic fluids to the OSPAR Convention's maritime area, 1981-2003
(tonnes)



Data from 2000 do not include cuttings.

Expressed as proportions

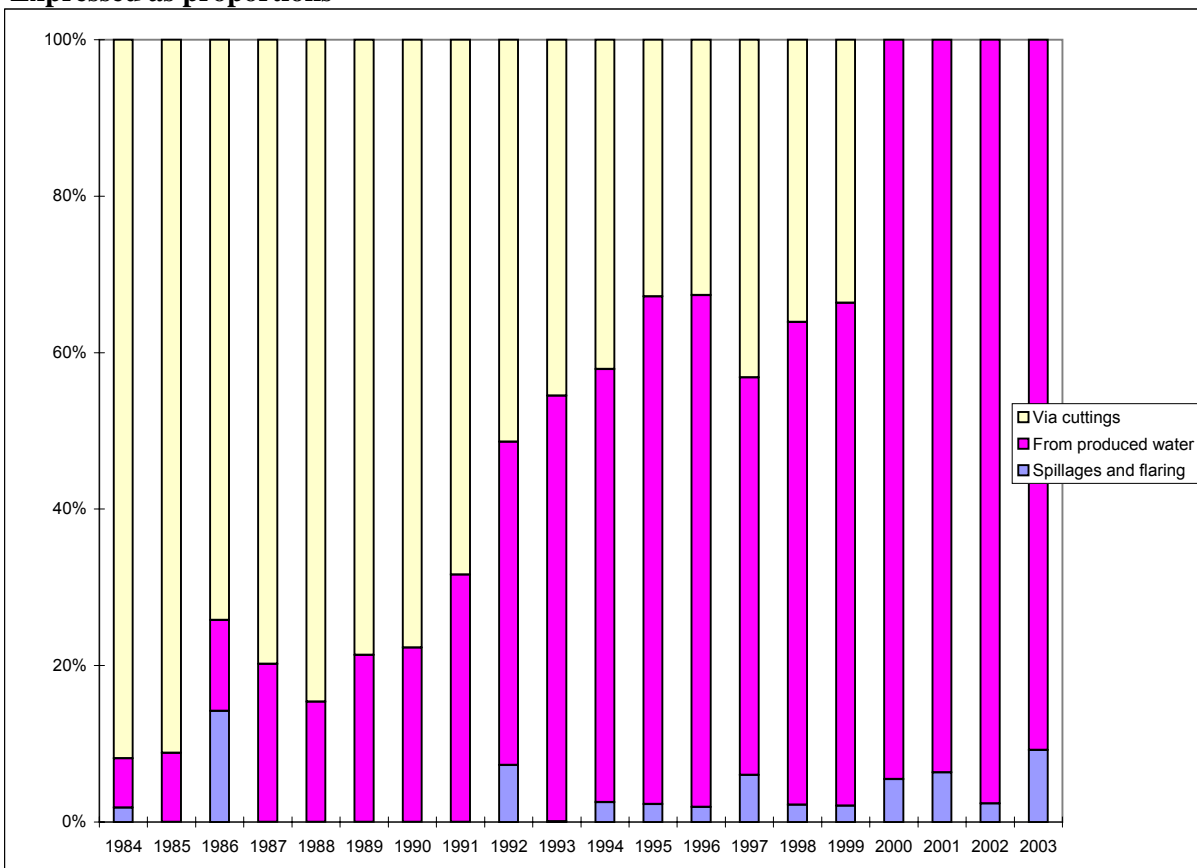
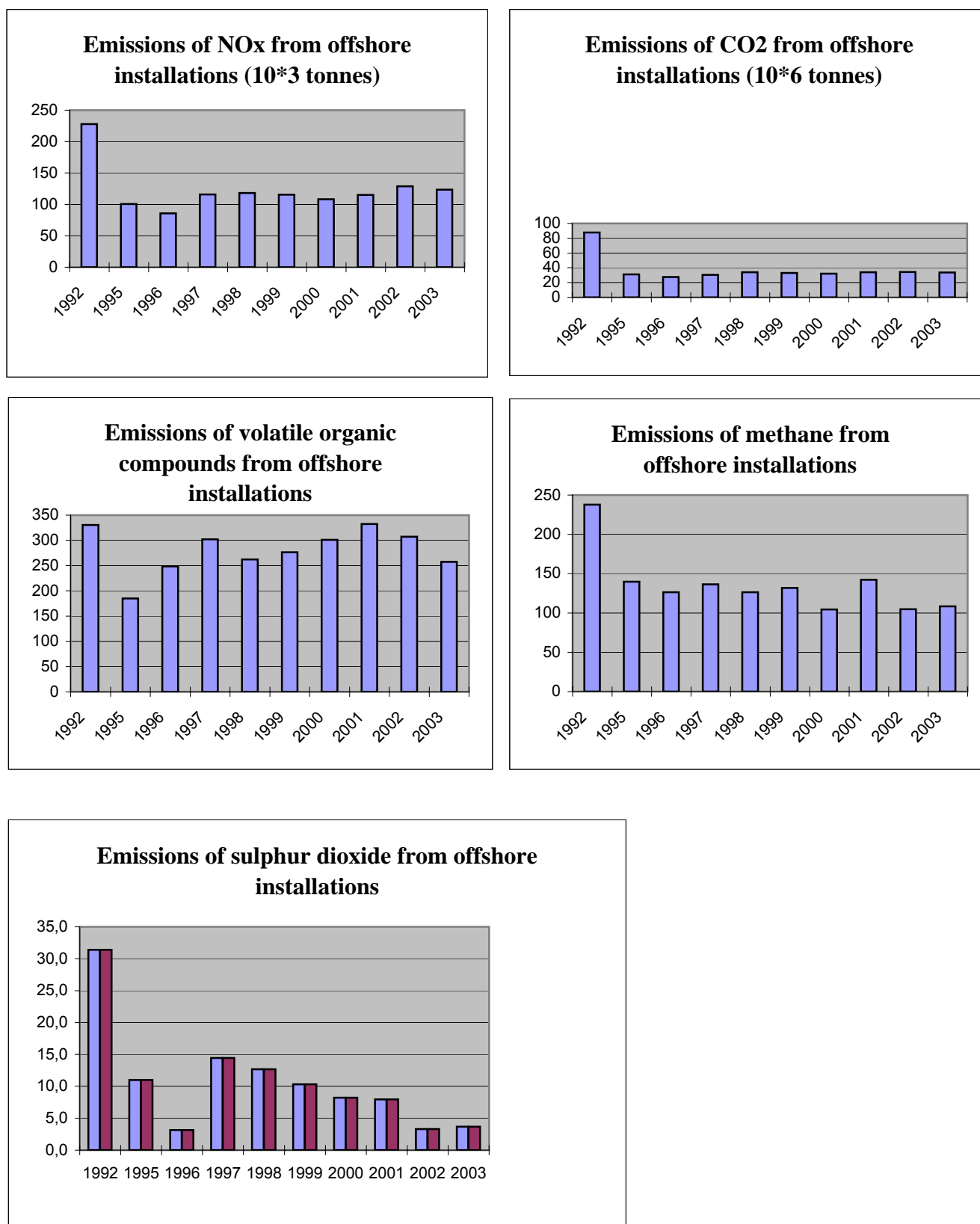


Figure 4 : Emissions to the air from offshore installations in 1992-2003



Annex: Comments to the OSPAR Report on Discharges, Spills and Emissions from Offshore Installations in 2003

Information on installations which did not meet the 40 mg/l performance standard in 2003

UK sector

Operator	Installation	Annual average total oil content (mg/l)	Comment
BP	Bruce	111	This issue was identified and has been tackled by improving the water treatment facilities and putting plans in place to improve the PWRI uptime even further. The first part of this plan has been successful. Demulsifier is now being injected on the CR platform to improve separation, resulting in the overboard episodes in 2004 all being below 40ppm (34, 35, 34, 27 and 37). Plans to upgrade the PWRI system are ongoing through 04/05.
BP	Cleeton	494	Cleeton is a gas compression platform. The two PW streams are treated by separate filter-coalescer wt packages discharging to the caisson. Water treatment performance fell off in 2003 and was in the range <40 to 100 mg/l due to increased production from new field developments. < 1 tonne condensate was discharged. PWRI is now implemented and wt packages cleaned up.
BP	West Sole Alpha	349	West Sole A is NUI gas platform with a 3 phase separator. Platform visits in 2003 were limited and the condensate discharge concentrations were >40 <100mg/l. The platform discharged 0,2 tonnes condensate to sea in 2003. Separator level setting devices were reset in 2004 and new sampling procedures have resulted in a <40mg/l discharge measurement in 2004.
BP	West Sole Charlie	80	West Sole C is a NUI gas platform with a 3 phase separator which is undersized for the duty resulting in a condensate discharge quality of >40 <100mg/l. A new separator with 30mg/l specification has been constructed and is due to be hooked up early 2005
BP	Trent 043/24	78	See Perenco who inherited produced water separation plant from BP who operated the installation pre October 2003.
BP	Inde 49/23-A	1463	See Perenco who inherited produced water separation plant from BP operators of the installation pre October 2003.
BP	Leman 49/27A	611	Leman 49/27A October - December 2003. Perenco inherited produced water separation plant from BP who operated the installation pre October 2003. Perenco are to introduce 100% produced water re-injection by end December 2004.

Operator	Installation	Annual average total oil content (mg/l)	Comment
BP	Ravenspurn North	1061	Ravenspurn North is a gas compression platform. The two PW streams discharge to the caisson with condensate recovery from caisson. Condensate in produced water concentrations are measured before the caisson and were elevated (100mg/l) due to the absence of a wt package. > 2tonnes condensate discharge was measured in 2003 but takes no account of condensate recovery from the caisson. A wt package is currently being installed to <30mg/l discharge quality.
BP	Montrose Alpha	59	Paladin Resources plc took over operatorship of the Montrose field from BP in May 2003. Recognising the issues that Montrose had faced historically in achieving 40 mg/kg, Paladin developed a Produced Water Improvement Plan with the objective of meeting the OSPAR target and the new statutory 30 mg/l standard by December 2005.
Exxon/Mobil	Thames	117	Thames is a gas platform that discharged 5,72 te oil in 2003. Whilst volumes of produced water discharged are low Exxon Mobli are actively seeking to address the high concentration issue. This work is progressing on three lines: chemical trials, a reinjection study and collaboration with other Southern North Sea gas operators.
TALISMAN	Buchan Alpha	55	Throughout 2003 Talisman has been seeking to address the high produced water concentration from the Buchan. In August 2004 a CETCO unit was installed and is currently being optimised. It is hoped the improvements will be realised during 2005.
CONNOCO PHILIPS	Nordic Apollo	88	Nordic Apollo is an FSU that, during 2003, accepted out of specification produced water from the Banff. It has no treatment facilities and gravity separation in the slops tanks proved ineffective. Improvements have been made on the Banff and this practise of transferring produced water has now stopped.
PERENCO	Inde 49/23-A	1463	Perenco inherited produced water separation plant from BP who operated the installation pre October 2003. Perenco have since made improvements to attempt to meet the OSPAR target. They performed a trial of a new separation unit called SEREP in June 2004 which gave results below 40 ppm when combined with the centrifuge unit. The have also introduced better level control on the existing horizontal gravity separator tank. The SEREP unit is to be installed by December 2004.
PERENCO	Leman 49/27A	611	Perenco inherited produced water separation plant from BP who operated the installation pre October 2003. Perenco are to introduce 100% produced water re-injection by end December 2004.
PERENCO	Trent 043/24	78	Perenco inherited produced water separation plant from BP who operated the installation pre October 2003. They are implementing an improvement programme of existing hardware (coalescer, degasser and sump tank) to meet the 40 ppm target).

Operator	Installation	Annual average total oil content (mg/l)	Comment
CENTRICA	Storage Rough 47/3b	326	Centrica have put the following measures into place to improve their oil in produced water: new sample point and flow meter installed in 2003; install bypass line from drains tank to recovered condensate pump section; retrim contactor valves to give continuous flow; replace water rundown pipework from production separators; retrim water rundown valves from production separators.
SHELL	Solepit Clipper	248	Shell reviewed facilities design and chemical applications (deoiler and coalescer trails and corrosion inhibitor work) targetting the Sole Pit Clipper with the view of transferring the conclusions to the Leman Alpha and Sean Papa. This has resulted in the selection of a disc centrifuge system, currently subject to detailed design which will be installed on the platform during the 2005 shutdown therefore ensuring compliance with the new 30 ppm limit from January 2006.
SHELL	Leman Alpha	158	See Solepit Alpha for background. A hydrocyclone system was selected as the solution to the problems encountered by the Leman, it is currently subject to detailed design and will be installed on the platform during the 2005 shutdown therefore ensuring compliance with the new 30 ppm limit from January 2006.
SHELL	Sean Papa	608	A pump filter coalescer and absorption system was selected as the solution to the problems encountered by the Sean Papa, it is currently subject to detailed design and will be installed on the platform during the 2005 shutdown therefore ensuring compliance with the new 30 ppm limit from January 2006.
TULLOW	Hewett 48/29-A	80	Hewett is a gas platform that discharges <2te oil per year (0,03te in 2003). Working towards ensuring emissions are <40mg/l.
PALLADIN	Montrose Alpha	59	Paladin Resources plc took over operatorship of the Montrose field from BP in May 2003. Recognising the issues that Montrose had faced historically in achieving 40mg/kg, Paladin developed a Produced Water Improvement Plan with the objective of meeting the OSPAR target and the new statutory 30mg/l standard by December 2005. The Plan identified the need to carry out a fundamental review of the production facilities, production chemistry and operational practices. These three areas were addressed in 2003 along with an evaluation of additional oil in water treatment technology and produced water re-injection.

DK sector

Operator	Installation	Annual average total oil content (mg/l)	Comment
	GORM C	65	<p>The increased amount of oil discharged with produced water from GORM C in 2003 was mainly due to:</p> <ul style="list-style-type: none"> - separations problems in separators on Gorm C - irregular production due to shut downs and restarts of processes on satellite platform. <p>Problems have been solved since January 2004 by:</p> <ul style="list-style-type: none"> - cleaning of 1 step of the separators on Gorm C - separation and water treatment equipment have been installed on satellite platform and produced water from the satellite platform is then discharged directly from the platform.

NL sector

Operator	Installation	Annual average total oil content (mg/l)	Comment
	GdF/L10-A	139	In 2002 a new skimmertank was installed in order to have an improved pretreatment technique before the three-phase centrifuge. However, this measure did not result in achieving the performance standard of 40 mg/l. By applying Best Environmental Practices, according to the year report 2004 from the operator, this platform has achieved over 2004 an average of 34 mg/l.
	GdF/K9c-A	294	In 2003 a Crossflow membrane filter has been installed as the last treatment step. This resulted in average of 14,8 mg/l over 2004, which means that the platform is achieving even the new 2006 performance standard of 30 mg/l. This result has been reported in the 2004 year report.
	GdF/K12-C	89	Installing an extra treatment step, i.e. an adsorption filter unit, will lead to achievement of the performance standard of 40 mg/l in 2004. This achievement has been confirmed in the 2004 year report. The average aliphatic oil content over 2004 was 25,8 mg/l, which means that the platform is also achieving the new 2006 performance standard of 30 mg/l.
	Total/K6N	89	The operator reported that some bad operational experiences have been observed and that by applying the Best Environmental Practices, while the Best Available Technology was already in place, the platform will achieve the 40 mg/l performance standard in 2004. It is reported in the 2004 year report that the average aliphatic oil content is 15,3 mg/l which means that even the new 2006 performance standard of 30 mg/l has been achieved.

Information on spillages which occurred in 2003

Norway

- 659 tonnes out of the 739 tonnes of oil spilled by installations in Norway came from two spillages at the Draugen field. Investigation on these two spillages is in progress.
- Regarding the chemicals spillages from installations in 2003 (1249 tonnes), the chemicals are reported in the following categories:
 - Water-based drilling mud 498 tonnes
 - Oil-based drilling mud 230 tonnes
 - Other chemicals 516 tonnes. Of these 291 tonnes chemicals on the PLONOR-list, and the rest, 225 tonnes are chemicals that would have been placed in the column "Ranking" in table 7 in the annual report.
 - In addition, a spillage of about one tonne of corrosive chemicals (which too would have been reported in the column "ranking" occurred and a discharge of about four tonnes that had a biodegradability < 20%.

UK

- Chemical spills included individual spills of 150 tonnes (sodium chloride), 28 tonnes (MEG), 25 tonnes (TEG), 20 tonnes (TEG) and 12.3 tonnes (hydraulic fluid).