



## **OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations**

### **(Consolidated text<sup>1</sup>)**

**OSPAR Recommendation 2001/1 adopted by OSPAR 2001 (OSPAR 01/18/1, Annex 5)  
Amended by OSPAR Recommendation 2006/04 (OSPAR 06/23/1, Annex 15), OSPAR  
Recommendation 2011/08 (OSPAR 11/20/1, Annex 19) and OSPAR Recommendation 2020/02  
(OSPAR 20/12/1, Annex 13)**

RECALLING Article 2(3) of the Convention for the Protection of the Marine Environment of the North-East Atlantic (“OSPAR Convention”), which, *inter alia*, requires Contracting Parties to take full account of the latest technological developments and practices when adopting programmes and measures; in carrying out such programmes and measures, the Contracting Parties shall ensure the application of best available techniques and best environmental practice as so defined, including, where appropriate, clean technology;

RECALLING Article 5 of the OSPAR Convention, which requires the Contracting Parties to take all possible steps to prevent and eliminate pollution from offshore sources in accordance with the provisions of the Convention, in particular as provided for in Annex III;

RECALLING paragraphs 2 and 6 of Appendix 1 of the OSPAR Convention, which defines the term ‘best available techniques’ (BAT) and ‘best environmental practice’ (BEP) and establishes the criteria for determining what constitutes these techniques and practices;

RECALLING the PARCOM Recommendation of a 40 mg/l Emission Standard for Platforms, 1986, and its continuing application to ballast water, displacement water and drainage water, subject to the requirements of the 1973 Convention for the Prevention of Pollution from Ships and its 1978 Protocol (MARPOL 73/78);

RECALLING PARCOM Recommendation 92/6 on Best Available Technology for Produced Water Management on Offshore Oil and Gas Installations;

RECALLING the programmes and measures stipulated in OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals, as amended by OSPAR Decision 2005/1;

RECALLING the programmes and measures stipulated in OSPAR Recommendation 2017/01 on a Harmonised Pre-screening Scheme for Offshore Chemicals, as amended by OSPAR Recommendation 2019/04;

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<sup>1</sup> The consolidated text integrates the basic OSPAR measure with subsequent amendments adopted by OSPAR in a single, non-official document to facilitate documentation. Only the basic OSPAR measure and the subsequent measures adopted by OSPAR to amend the basic measure are official documents.

RECALLING the programmes and measures stipulated in OSPAR Recommendation 2010/3 on a Harmonised Offshore Chemical Notification Format (HOCNF), as amended by OSPAR Recommendation 2014/17 and 2019/03;

RECALLING the agreement in the Sintra Statement 1998 to prevent pollution of the maritime area by continuously reducing discharges, emissions and losses of hazardous substances, 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 and to make every endeavour to move towards the target of cessation of discharges, emissions and losses of hazardous substances by the year 2020 and OSPAR's adoption in 1998 of the Strategy with regard to Hazardous Substances in order to make this agreement operational;

RECALLING that the Sintra Statement declared that OSPAR should set environmental goals for the offshore oil and gas industry and should establish improved management mechanisms to achieve them; and that OSPAR adopted in 1999 a Strategy on Environmental Goals and Management Mechanisms for Offshore Activities;

RECALLING the OSPAR Action Plan 1998 - 2003, which calls, *inter alia*, for the development of BAT and BEP and the preparation of measures for adoption for the control of oil and other substances in aqueous discharges from offshore installations based upon an appraisal of the significance of, and the possibilities for reducing, such emissions;

RECALLING the conclusion of the Quality Status Report 2010 (OSPAR Publication 497/2010) and Intermediate Assessment 2017 on the impacts of the discharges of produced water to the maritime area;

RECALLING the outcome of the Workshop on Produced Water Management held in The Hague, 6-8 October 1997, as reported in paper SEBA 98/5/Info.1;

RECOGNISING that produced water is a source of contamination by oil and other substances and a potential source of pollution of the sea in the maritime area and needs to be controlled through the use of BAT and BEP;

RECOGNISING that there is a need to control the volumes of produced water discharged from offshore installations, especially as producing fields mature, with a view to reducing the discharges of oil, including aromatics, and other substances;

RECOGNISING ALSO that there is a need to reduce the concentration of oil and other substances in produced water discharged;

CONSIDERING the OSPAR background document (OSPAR Publication 602/2013) on examples of current techniques and emerging techniques that may be part of a BAT and BEP solution for produced water management on offshore installations; and

RECOGNISING the need for controls with regard to the management of drainage water and displacement water but acknowledging that this will be established through separate OSPAR programmes and measures;

**The Contracting Parties to the Convention for the Protection of the Marine Environment of the North-East Atlantic RECOMMEND:**

## **1. Definitions**

1.1 For the purpose of this Recommendation:

“BTEX”	means Benzene, Toluene, Ethylbenzene, Ortho-xylene, Meta-xylene and Para-xylene;
“BTEX content”	means the sum of the levels of BTEX obtained by the application of the static headspace method defined by the ISO 11423-1 using GC-MS, or another method that produces equivalent results;
“offshore installation”	means any offshore installation as defined in the OSPAR Convention;
“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;
“oil”	means the total of hydrocarbons as may be determined according to the methods of analysis given in section 7 of this Recommendation;
“dispersed oil”	means hydrocarbons as determined according to the reference method of analysis given in § 7.2 of this Recommendation;
“performance standard”	means a limit value for a concentration in mg/l;
“other substances”	means all or any of the following: <ul style="list-style-type: none"> <li>- solid particles from the reservoir;</li> <li>- substances from the reservoir such as heavy metals;</li> <li>- particles of scale and corrosion products;</li> <li>- substances including offshore chemicals, introduced into the production system for operational purposes or treatment prior to disposal;</li> </ul>
“offshore chemicals”	means all chemicals intentionally used in connection with offshore exploration and production activities in the maritime area. Offshore chemicals comprise both substances and preparations.
“BAT”	means best available techniques as defined in Appendix 1 of the OSPAR Convention;
“BEP”	means best environmental practice as defined in Appendix 1 of the OSPAR Convention;
“operator”	means a company controlling the operations of an offshore installation in a part of the maritime area which is under the jurisdiction of a Contracting Party.

## 2. Purpose and Scope

2.1 The purpose of this Recommendation is to prevent and eliminate pollution by oil and other substances caused by discharges of produced water.

2.2 This Recommendation applies only to those offshore installations that discharge produced water to the maritime area.

2.3 This Recommendation is in addition to the controls on the use and discharge of chemicals established by OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the Use and Reduction of the Discharge of Offshore Chemicals.

## 3. Goals

3.1 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 the reduction 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.

3.2 From 1 January 2002 each Contracting Party should ensure that plans to construct new offshore installations, or to modify substantially existing offshore installations, should take as a point of departure the minimisation of discharges and, where appropriate, the achievement of zero discharges of oil in produced water into the sea.

3.3 In accordance with the objective and the timeframe of the OSPAR Strategy with regard to Hazardous Substances, Contracting Parties should aim to achieve a continuous reduction in discharges of hazardous substances *via* produced water, by making every endeavour to move towards the target of cessation of discharges 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.

## **4. Programmes and Measures**

### **4.1 General Principles in pursuing the goals**

4.1.1 Contracting Parties should ensure that BAT and BEP are applied on each installation and that BAT and BEP are regularly reviewed in accordance with paragraph 5.1.

4.1.2 The prevention and elimination of pollution by oil and other substances caused by discharges of produced water into the sea should be achieved by a reduction of the volume of produced water discharged into the sea (e.g. by injection, downhole separation or water shutoff) and/or a reduction of concentrations of oil and other substances in produced water.

4.1.3 Contracting Parties should encourage operators under their jurisdiction to include the prevention and reduction of discharges of produced water, and oil and other substances contained therein, as a priority item for continuous improvement in their environmental management systems.

4.1.4 Contracting Parties should ensure that when offshore installations, or relevant parts of them, are relocated for use elsewhere in the maritime area, an assessment and evaluation should take place to ensure that the relocated installation, or the relevant relocated part of an installation, performs according to BAT and BEP in respect of the management of produced water.

### **4.2 Performance standards**

4.2.1 No individual offshore installation should exceed a performance standard for dispersed oil of 30 mg/l for produced water discharged into the sea.

4.2.2 Contracting Parties should report on an annual basis to the meeting of the Offshore Industry Committee the offshore installations which fail to meet the performance standard for dispersed oil of 30 mg/l for discharged produced water. For each such installation, the report should include an evaluation of the BAT and BEP for that installation, including the options:

- a. which have been considered in order to meet this performance standard, but
- b. which have not been considered feasible including the reasons for this,

so as to ensure that information is available on the reasons why these offshore installations cannot meet the performance standard.

4.2.3 Contracting Parties should ensure that operators continue to review BAT and BEP for the management of produced water including the achievable concentrations of oil and other substances.

4.2.4 Contracting Parties should continue to exchange information on the levels of dispersed oil, BTEX and other substances in produced water on an annual basis.

4.2.5 The dilution of treated or untreated produced water for the purpose of lowering the average concentration of oil or achieving compliance with the performance standard should be prohibited.

## **5. Improvement Programmes**

5.1 Bearing in mind the dynamic nature of BAT and BEP, each Contracting Party should at least every five years carry out an assessment and evaluation of the application of BAT and BEP in order to ensure that each individual installation takes account of latest developments in BAT and BEP. Where needed to ensure the application of up-to-date BAT and BEP to individual offshore installations, the Contracting Party should arrange for an improvement programme to be drawn up for such installations and require it to be implemented.

5.2 For offshore installations which fail to meet the performance standards laid down and scheduled in paragraphs 4.2.1 and 4.2.2, Contracting Parties should, once the failure to meet the targets has been established, report to the next meeting of the Offshore Industry Committee the content of the improvement programmes referred to in paragraph 5.1, including the problems that they are addressing:

- a. for offshore installations discharging not more than 2 tonnes of dispersed oil per year, the average concentration of dispersed oil, the quantity of produced water discharged, the total quantity of dispersed oil discharged and the type of treatment equipment installed;
- b. for offshore installations discharging more than 2 tonnes of dispersed oil per year, the details as in indent (a) above, together with a full account of measures taken or planned in order to achieve compliance with the performance standard.

## **6. Sampling**

### **6.1 Discharges of produced water from manned installations**

6.1.1 For offshore installations that discharge produced water continuously, the determination of the quantity of dispersed oil discharged should be based on the results of at least 16 samples per month. Samples should be taken at equal time intervals.

6.1.2 The sampling point should be immediately after the last item of treatment equipment in, or downstream of, a turbulent region, and in any case before any subsequent dilution.

### **6.2 Discharges of produced water from unmanned installations, batch discharges and small discharges**

6.2.1 For the following discharges of produced water, the frequency and timing of sampling should make sure that samples of the effluent are representative, taking into account operational aspects and logistics:

- a. batch discharges of produced water;
- b. discharges of produced water from unmanned offshore installations;

- c. discharges of produced water containing not more than two (2) tonnes of dispersed oil per annum.

6.2.2 Where discharges of produced water from unmanned installations contain more than two (2) tonnes of dispersed oil per annum and operational logistics prevent the collection of at least 16 samples per month, the use of online analysers, monitors or other suitable methods should be considered.

## **7. Analysis**

7.1 For the purpose of this recommendation, the concentration of dispersed oil should be determined by the reference method specified in the next paragraph or an alternative method yielding equivalent results. These alternative methods may include on-line analysis techniques or continuous monitoring. Such methods should be calibrated against the reference method and approved by the competent authority.

7.2 The reference method for the determination of the dispersed oil content in produced water is the method described in OSPAR Agreement 2005/15.

7.2.1 The reference method for the determination of the dissolved oil (BTEX) content in produced water is ISO 11423-1 using GC-MS, or another method that produces equivalent results.

7.3 When applying methods of analysis using solvents, regeneration equipment should be applied to recover and reuse the solvents as many times as possible, in order to keep discharges emissions and losses of these solvents to the environment as low as possible.

7.4 Total oil can be calculated by adding the BTEX content to the dispersed oil content. The amount of BTEX should be calculated on the basis of the quantity of produced water discharged per year (m<sup>3</sup>) and the flow-weighted average values of BTEX in the produced water. Sampling analyses of BTEX should be undertaken on at least a six-monthly basis.

## **8. Entry into Force**

8.1 This Recommendation has effect from 29 June 2001.

8.2 Upon taking effect, this Recommendation supersedes:

- a. except in relation to ballast water, drainage water and displacement water, PARCOM Recommendation of a 40 mg/l Emission Standard for Platforms, 1986;
- b. PARCOM Recommendation 92/6 on Best Available Technology for Produced Water Management on Offshore Oil and Gas Installations;
- c. Agreement 1978-1 on Acceptance of the Provisional Target Standard of 40 ppm for Discharges from Offshore Oil Installations;
- d. Agreement 1988-1 on Conclusions on the 40 mg/l Target Standard;

## **9. Implementation Reports**

9.1 Reports on the implementation of this Recommendation should continue to be submitted by Contracting Parties with offshore installations that discharge produced water into the sea, using as far as possible the format set out in Appendix 1. The reports should be submitted to the appropriate OSPAR subsidiary body by 31 December 2012 and every four years thereafter unless otherwise specified by the Commission.

**The format for implementation reports concerning OSPAR Recommendation 2001/1 for the Management of Produced Water from Offshore Installations**

*(Note: In accordance with paragraph 9.1 of the Recommendation, this format should be used as far as possible in implementation reports)*

**I. Implementation Report on Compliance**

**Country:**

**Reservation applies**

**Is measure applicable in your country?**

If not applicable, then state why not (e.g. no relevant installation)

<b>Means of Implementation:</b>	by legislation	By administrative action	by negotiated agreement
	yes/no*	Yes/no*	yes/no*

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Please provide information on:

- a. specific measures taken to give effect to this measure;
- b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;
- c. the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;
- d. if appropriate, progress towards being able to lift the reservation.

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\* Delete whichever is not appropriate