



**OSPAR**  
**COMMISSION**

Útvefningu umhverfisráðs EFTA-áttvæðinga um

### **OSPAR Convention**

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

### **Convention OSPAR**

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 l'Union européenne et l'Espagne.

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## Executive summary

The OSPAR Quality Assurance Handbook brings together information on policies, procedures and guidelines established by OSPAR which have a bearing on the quality of data and information reported to and handled by OSPAR.

The Handbook has a general part describing the background and purpose of the Handbook and presenting the general guidance on quality assurance agreed by OSPAR and conclusions from the reviews of quality assurance arrangements by OSPAR 2001, 2004 and 2007. This is followed by one section for each of the Strategy Committees. A reference list of quality assurance guidance documents is included.

The review of quality assurance arrangements showed that quality assurance is an integral part of several of the activities under the OSPAR Strategy Committees. In general, within the constraints of the available resources, QA arrangements are given considerable attention and are acceptable, but there is scope for improvement. OSPAR has agreed that the OSPAR Secretariat should take steps to ensure that all material coming before a main committee about new arrangements, or changes in existing arrangements, for monitoring and reporting of data address the issue of quality assurance, or are accompanied by a reminder of the need for this to be addressed.

OSPAR 2007 agreed to publish the Handbook on the OSPAR website, and that the OSPAR Secretariat should keep the Handbook up-to-date through the inclusion of any revised or new quality assurance procedures and guidelines prepared by the OSPAR Committees. With this agreement, the three-yearly review of quality assurance arrangements has ended.

The Handbook has been updated in 2011 to bring it in line with the OSPAR Commission's latest working structure, as adopted by OSPAR 2010.

## Récapitulatif

Le Manuel OSPAR d'assurance de qualité réunit les informations sur les politiques, les procédures et les lignes directrices mises en place par OSPAR qui affectent la qualité des données et des informations communiquées à, et traitées par OSPAR.

Le manuel comporte une partie générale qui décrit le contexte et la fonction du Manuel. Elle présente des orientations générales sur l'assurance de qualité convenues par OSPAR ainsi que des conclusions découlant des examens, par OSPAR, des dispositions relatives à l'assurance de qualité, en 2001, 2004 et 2007. Il comporte ensuite une section pour chaque comité stratégique et une liste bibliographique des documents d'orientation sur l'assurance de qualité.

L'examen des dispositions relatives à l'assurance de qualité révèle que celle-ci fait partie intégrante de plusieurs activités dans le cadre des comités stratégiques OSPAR. D'une manière générale, dans les limites des ressources disponibles, les dispositions relatives à l'assurance de qualité font l'objet d'une attention considérable et sont acceptables, mais il est possible de les améliorer. OSPAR est convenue que son Secrétariat prendra des mesures afin de s'assurer que tous les éléments sur la surveillance et la notification des données, communiqués à un comité principal et portant sur de nouvelles dispositions ou sur des modifications de dispositions existantes, abordent la question de l'assurance de qualité, ou rappellent qu'il est nécessaire de le faire.

OSPAR 2007 est convenue de publier le manuel sur son site internet et que son Secrétariat le maintiendra à jour en y faisant figurer toutes procédures et lignes directrices d'assurance de qualité, révisées ou nouvelles, préparées par les comités OSPAR. Cet accord met fin à l'examen des dispositions relatives à l'assurance de qualité, effectué tous les trois ans.

Ce manuel a été mise à jour afin de l'aligner avec la dernière structure de travail de la Commission OSPAR, telle qu'adoptée par OSPAR 2010.

## 1. Introduction

1.1 This Quality Assurance Handbook is a compilation of quality assurance arrangements for data collection, reporting and assessment within OSPAR's main committees.

### 1.1 Background

1.2 OSPAR 1999 adopted the following statement regarding the application of Quality Assurance procedures to data collection within OSPAR (OSPAR 99/15/1):

“While recognising that Quality Assurance (QA) procedures have been developed for several JAMP issues and that QA procedures are in preparation for other issues, ASMO also recognised that in general an absence of appropriate QA poses problems of reliability of data and thus to the progress on some elements of the JAMP programme. Based on the OSPAR QA policy (cf. OSPAR 12/16/1, § 8.12 and also the Joint Assessment and Monitoring Programme (JAMP), Section 1, § 1.5) there is a need to further elaborate the QA procedures in OSPAR committees and working groups with respect to all data collection/reporting and assessment within OSPAR. Generally, QA should be appropriate for the purpose of a defined assessment or monitoring activity, i.e. sufficient but not over-elaborate. In order to ensure that OSPAR data is not evaluated/analysed to an extent beyond a level commensurate with its reliability, OSPAR should consider how, in the interim period, best to qualify data reports with an indication of QA applied”.

### 1.2 Review of QA arrangements

1.3 OSPAR 2001 considered a preliminary scrutiny presented by the United Kingdom of OSPAR's QA procedures which had been carried out by OSPAR working groups and Committees in 2000/2001, and agreed that:

- a. steps should be taken to improve its QA procedures with the aim of ensuring that all necessary procedures are in place and sufficient for purpose within a ten-year period;
- b. the main responsibility for improvement should be at OSPAR Committee level;
- c. consideration should be given to how best to provide an overview process to ensure an adequate degree of consistency across the various Committees;
- d. an appropriate action should be included in the work programme for each committee to give an impetus to reviewing and making any necessary improvement to QA procedures;
- e. in the absence of any other proposals for making good deficiencies, an iterative process should be applied by the respective Committees with a target of completing the first iteration for any “seriously deficient” areas within three years. This iterative process should involve:
  - (i) an assessment of current information and data;
  - (ii) a review of reporting requirements taking into account any deficiencies identified in that assessment;
  - (iii) an improvement in QA provisions (coupled with any necessary improvement to associated reporting requirements) with a view to making them sufficient for purpose;

- f. with regard to QA in “new activity” cases, some discretion should be allowed, i.e. accepting QA procedures which are less than optimal, where the essential flow of data may otherwise be inhibited;
- g. Committees should report on progress to OSPAR every three years.

OSPAR endorsed the conclusions in the report prepared by the United Kingdom, see Appendix 1.

1.4 In the meeting cycle 2003/2004 the committees reviewed quality assurance in their fields and the outcome was examined by OSPAR. In the light of this, OSPAR agreed that:

- a. no specific actions, beyond those already under way under the various main committees, need to be put in hand to improve quality assurance of OSPAR data;
- b. the Secretariat should take steps to ensure that all material coming before a main committee about new arrangements, or changes in existing arrangements, for monitoring and reporting of data address the issue of quality assurance, or are accompanied by a reminder of the need for this to be addressed;
- c. the main committees should be asked to review the issue in the 2006/07 cycle of meetings and report to OSPAR 2007.

The outcome of the review is at Appendix 2.

1.5 OSPAR 2006 endorsed the various arrangements that the main committees (other than BDC) had put in place as a substitute for the review of quality assurance in 2006/2007. The arrangements for the review are at Appendix 3.

1.6 OSPAR 2006 further asked the Secretariat to compile all the material from all the main committees into a draft Quality Assurance Handbook, for submission to OSPAR 2007.

1.7 The Joint Assessment and Monitoring Programme 2010-2014, adopted by OSPAR 2010, has as its end point in 2014 the establishment of monitoring programmes in support of Contracting Parties commitments under the EU Marine Strategy Framework Directive. In this context, existing monitoring programmes are being revised and new programmes established, and OSPAR Committees will review and address the need for appropriate quality assurance arrangements.

### 1.3 Purpose of the QA Handbook

1.8 The Quality Assurance Handbook brings together information on policies, procedures and guidelines established by OSPAR which have a bearing on the quality of data and information reported to and handled by OSPAR. It details procedures and guidance both on sampling, analysis, reporting and assessment. It is intended as a resource and basis for:

- Contracting Parties and Observers to act on;
- the OSPAR Committees to ensure their applications;
- OSPAR to conclude on whether all necessary QA procedures are in place and sufficient for purpose.

1.9 The QA Handbook is a living document, to be revised when necessary. The contents are not static documents. Good practice requires the regular review of policies and procedures and the Handbook is therefore subject to updating and revisions as new developments require. The Secretariat is responsible for ensuring that the Handbook is kept up-to-date.

1.10 The Handbook is a compilation of links and references to agreed procedures rather than a full representation of the various QA arrangements. This makes it easier to keep it updated. The Handbook is available as a publication on the OSPAR website and is accessible through the publication link of each Strategy site.

## 2. OSPAR QA policy and general guidance

2.1 In 1990, the Oslo and Paris Commissions adopted the following policy of quality assurance ([Agreement 1990-03](#)):

- Contracting Parties acknowledge that only reliable information can provide the basis for effective and economic environmental policy and management regarding the Convention area;
- Contracting Parties acknowledge that environmental information is the product of a chain of activities, constituting programme design, execution, evaluation and reporting, and that each activity has to meet certain quality assurance requirements;
- Contracting Parties agree that quality assurance requirements be set for each of these activities;
- Contracting Parties agree to make sure that suitable resources are available nationally (e.g. ships, laboratories) in order to achieve these goals;
- Contracting Parties fully commit themselves to following the guidelines adopted within the framework of the Commissions in accordance with this procedure of quality assurance.

2.2 The following general guidance has been given by OSPAR during the review of QA arrangements over the period 2001-2007:

- a. the Secretariat should take steps to ensure that all material coming before a main committee about new arrangements, or changes in existing arrangements, for monitoring and reporting of data address the issue of quality assurance, or are accompanied by a reminder of the need for this to be addressed;
- b. QA requirements should be set up for each new activity when it is being started and reviewed for their fitness as the activity evolves. Responsibility for the initial QA scheme is with the country in lead of the activity;
- c. For data products prepared by external bodies (e.g. emission/deposition data from European Pollutant Emission Register (EPER) and the Co-operative programme for monitoring and evaluation of the long range transmission of air pollutants in Europe (EMEP), QA procedures of these bodies apply.

## 3. QA arrangements by thematic strategy

### 3.1 Hazardous Substances Strategy

3.1 QA procedures for contaminants with interest for the Hazardous Substances and Eutrophication Committee (HASEC) concern information on properties and risks, sources, inputs and concentrations and effects in the maritime area. Previously two Committees – Hazardous Substances Committee (HSC), and Environmental Assessment and Monitoring Committee (ASMO) – were responsible for the different aspects of monitoring and assessment of contaminants and their effects in the marine environment.

#### 3.1.1 Properties and risks and source monitoring

3.2 QA procedures, including good practices relating to data handling, were an important part of the work on dynamic selection and prioritisation mechanism and for developing the Background Documents. Currently



QA is important in relation to maintaining the List of Substances of Possible Concern ([Agreement 2002-17](#)), for the collection of data on discharges, emissions and losses for the JAMP assessments, and for monitoring of concentrations in biota and sediments.

3.3 QA arrangements have been reviewed in the meeting cycles:

- a. 2000/2001 addressing QA in the DYNAMEC process (SPS(1) 2001 Summary Record, SPS(1) 01/12/1);
- b. 2003/2004 defining a general approach to QA (HSC 2004 Summary Record, HSC 04/10/1);;
- c. 2006/2007 focusing on QA procedures for the collection of information under the Agreement on Monitoring Strategies for Priority Chemicals (HSC(2) 06/10/1).

3.4 Different sets of QA arrangements apply, some of which adopt a pragmatic approach to balance the need for QA and feasibility of the task. As a general approach, QA requirements are set up for each new activity when it is being started and reviewed for their fitness as the activity evolves. Responsibility for the initial QA scheme is with the country in lead of the activity. For data products prepared by external bodies (e.g. emission/deposition data from EPER and EMEP), QA procedures of these bodies apply.

#### ***DYNAMEC process***

3.5 The DYNAMEC process relied to a large extent on data from external sources, which was either accessed from chemical product databases such as (i) the IUCLID database maintained by the European Chemicals Bureau, (ii) the Nordic Product Register and the Nordic Substance Database, (iii) data collected, assessed and used in the context of the Combined Monitoring and Prioritisation System (COMMPS)-ranking, (iv) the Danish and the Dutch QSAR databases, or submitted to the meeting by Contracting Parties and observer organisations. Therefore, the former HSC was reliant on the validation procedures used in developing these source databases or used by the parties submitting data to the HSC working group on priority substances.

3.6 To ensure that data accessed for DYNAMEC purposes were fit for purpose, HSC agreed the procedures set out in SPS(1) 2001 Summary Record (SPS(1) 01/12/1) to satisfy itself to the extent possible that quality of data collected were acceptable and reliable.

3.7 The Informal Group of DYNAMEC Experts (IGE) examines the accuracy of amended fact sheets or additional information on substances on the List of Substances of Possible Concern or information on new substances and continues to prepare advice to the new Hazardous Substances and Eutrophication Committee (HASEC) for consideration whether the provided information is of acceptable accuracy.

#### ***Emissions, discharges and other source related information***

3.8 Implementation reporting formats on point and diffuse sources include, where relevant, also reporting on effectiveness. The use of these reporting formats should ensure sufficient transparency, harmonisation and quality regarding what to report and how. Some of the implementation reporting formats also ask for a short description of how loads have been calculated. The implementation reporting formats do not collect information on QA of sampling and analysis.

3.9 Annual data collections on emissions, discharges and losses of certain hazardous substances are collected through reporting formats for the chlor-alkali report, the dumping report and the offshore discharges report:

- a. The chlor-alkali reporting format does not ask for information on QA and the reports do not contain any information about QA procedures related to sampling and analysis. There is however a good routine on checking and validation of the data reported. EuroChlor has set up a system using common reporting principles that have been designed according to quality assurance principles. Furthermore, the expert assessment process by HASEC gives the possibility for unusual results or QA gaps to be further examined;

- b. The offshore discharges reporting format does not ask for QA information and the reports do not contain any information about QA procedures related to sampling and analysis. There is however a good routine on checking and validation by an Expert Assessment Panel of the data reported under the remit of the Offshore Industry Committee (OIC) (see section 3.4);
- c. The annual report on dumping of wastes at sea includes in its reporting format ([Agreement 2009-3](#)) a section asking Contracting Parties for information on QA procedures for analyses. The information received is summarised in the annual report, but is not assessed. This is within the remit of the Human Activities Committee (EIHA) (see section 3.3).

3.10 For information collection under the monitoring strategies for priority substances, in principle, the QA procedures of the information source apply. A short description of the sources and reliability of the data is required for incorporation in assessments in which the data is used. A general statement from the data provider is requested about the quality of the data.

3.11 The short (max 1 page) QA description should include the elements listed below as far as possible:

- a. Source of data
  - (i) Where does the data or information come from? (Publications, databases, monitoring programmes)?
- b. Information on sampling and analysis
  - (i) Is the institute/laboratory that has carried out sampling and analysis accredited according to a recognised quality control scheme (such as EN ISO/IEC 17025)?
  - (ii) Does the laboratory participate regularly in national and international proficiency tests and/or intercalibration exercises? If so, describe briefly.
  - (iii) Include references to methods of analyses used (such as ISO standards, test guidelines/methods, GLP, OSPAR guidelines).
- c. Data handling and validation procedures
  - (i) Describe procedures to validate data/information (for example use of Expert Assessment Panel).
  - (ii) Give a short statement on uncertainties of the data.
- d. Any other relevant QA information.

### 3.1.2 Environmental Assessment and Monitoring

#### *RID and CAMP related QA procedures*

3.12 QA procedures relating to the areas of interest of the OSPAR Working Group on Inputs to the Marine Environment (INPUT) concern:

- a. monitoring and reporting
  - (i) under the Comprehensive Study on Riverine Inputs and Direct Discharges (RID) set out in the RID Principles ([Agreement 1998-5](#), update 2005);
  - (ii) under the Comprehensive Atmospheric Monitoring Programme (CAMP) set out in the CAMP Principles ([Agreement 2001-7](#));
- b. the assessment of RID and CAMP data for statements on long-term trends in waterborne and atmospheric inputs to the OSPAR maritime area.

3.13 QA arrangements for RID and CAMP have been reviewed in 2000/2001 and 2003/2004. The review in 2006/2007 focused on the QA arrangements for RID and will continue in the next meeting cycle.

3.14 The main QA procedures have been set up through the RID Principles (section 10) and the CAMP Principles (section 5). Quality assurance for monitoring and reporting of RID and CAMP data is in the responsibility of Contracting Parties.

3.15 RID data and CAMP data are reported annually and presented to INPUT review. The Norwegian Institute for Air Research (NILU) acts as data centre for CAMP data handling and in their presentation of reported data highlight anomalies in data which need further attention. The Norwegian Institute for Agricultural and Environmental Research (Bioforsk) acts as interim data centre for RID data handling and highlights in annual RID data reports anomalies and QA issues. Statistical tools associated with the RID database encourage simple QA checks by Contracting Parties within national time series and in comparison with other Contracting Parties.

3.16 Additional safeguards on the quality control of RID and CAMP data exist through the assessment of temporal trends from the sets of annual inputs data (last in 2005 for the period 1990 – 2001). Such trend assessments draw attention to anomalies and prompt investigation to establish whether such anomalies are genuine results or due to a fault in monitoring, analysis or data handling.

#### ***CEMP related QA procedures***

3.17 QA procedures relating to the areas of interest of the Working Group on Monitoring and on Trends and Effects of Substances in the Marine Environment MIME concern:

- a. monitoring and reporting
  - (i) under the Co-ordinated Environmental Monitoring Programme (CEMP) (latest update:) for concentrations of selected chemicals and nutrients in water, sediment and biota, and for biological effects ([Agreement 2010-1](#))
  - (ii) under the Agreement of Monitoring Strategies for OSPAR Chemicals for Priority Action ([Agreement 2004-14](#), update 2006) for a number of one-off surveys;
- b. the assessment of CEMP data for statements on the quality of the marine environment under the Joint Assessment and Monitoring Programme (JAMP) ([Agreement 2009-2](#)).

3.18 QA arrangements for the CEMP have been reviewed by ASMO in the meeting cycles 2000/2001, 2003/2004 and 2006/2007. As a general rule, the appendices to the CEMP, which set out the monitoring requirements for Contracting Parties, only become mandatory when adequate QA arrangements exist. When the CEMP is amended to include monitoring of an additional component, work should be progressed to develop appropriate quality assurance arrangements for the monitoring of that component.

3.19 The main QA procedures have been set up through:

- a. a suite of JAMP monitoring guidelines and additional arrangements to cover quality assurance in monitoring, reporting and assessment of CEMP data;
- b. QA programmes which have been established for the CEMP with the assistance of the International Council for the Exploration of the Sea (ICES) and the European Community, and in cooperation with the laboratory performance schemes “Quality Assurance of Information for Marine Environment Monitoring in Europe” (QUASIMEME) and “Biological Effects Quality Assurance in Monitoring Programmes” (BEQUALM). Advice from these QA programmes is reviewed annually by MIME;
- c. a case-by-case approach, and based on proposals from lead countries, for monitoring and reporting of data for the purpose of one-off surveys.

#### ***Monitoring and reporting***

3.20 The CEMP Appendices provide an overview showing for which determinands quality assurance procedures are in place. The JAMP monitoring guidelines adopted by OSPAR for monitoring under the

CEMP, including the Eutrophication Monitoring Programme, are compiled in the CEMP monitoring manual on the OSPAR website ([http://www.ospar.org/content/content.asp?menu=00900301400135\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00900301400135_000000_000000)).

3.21 The JAMP monitoring guidelines set out sampling, analysis, calculation and reporting methods and practices to support quality and comparability of data. In addition, the guidelines generally include special provisions on quality assurance covering a chain of activities in the monitoring processes, for example, on staff requirements; the actual taking of samples; sample storage and handling; calibration and standard deviations; system and inter-laboratory performance; (certified) reference material; data comparisons etc.

3.22 QUASIMEME is a platform for exchange of laboratory performance studies and test material to support improvement of data quality by laboratories, and for verification of the performance of all participating laboratories. QUASIMEME covers all the matrix-determinant combinations of the CEMP. New determinants are added to QUASIMEME upon demand. OSPAR is represented in the advisory board of QUASIMEME, and CEMP data of Contracting Parties have to go through QUASIMEME QA testing before being forwarded directly by QUASIMEME to ICES (as CEMP data centre) with a QA statement. MIME annually reviews developments in QUASIMEME.

3.23 BEQUALM is an EU funded project in response to the requirement of OSPAR to establish a European infrastructure for biological effects QA/QC, in order that laboratories contributing to national and international marine monitoring programmes can attain defined quality standards. BEQUALM's aim is to establish agreed sets of protocols for biological methods used in marine monitoring, conformity on acceptable limits of variation, and a system for monitoring the output of participating laboratories and assessing their compliance with appropriate quality standards. So far, QA programmes are in place for eight of OSPAR's biological effects monitoring activities while for the others QA programmes are still under development.<sup>1</sup> OSPAR is represented in BEQUALM and MIME annually reviews progress made in establishing appropriate QA programmes for CEMP biological effects monitoring.

3.24 Until 2006, ICES had provided advice on QA procedures for biological monitoring (phytoplankton, chlorophyll a, benthos) through the ICES/OSPAR Steering Group on Quality Assurance of Biological Measurements in the North-East Atlantic (SGQAE) which was merged in 2004 with the corresponding ICES/HELCOM group to form the Steering Group on Quality Assurance of Biological Measurements (STGQAB). The group has been disbanded and organisation of this part of ICES advisory services remains under review.

3.25 ICES acts as data centre for the CEMP data which Contracting Parties report under the CEMP. The reporting tools have built in screening and validation functions to assist correct data reporting.

### **Assessment Procedures**

3.26 The assessments involve data screening, treatment of quality assurance information, choice of bases, methods for normalization and calculating related uncertainties, temporal trend assessments and the assessment of the results against assessment criteria. There are no specific procedures describing the steps and QA involved. A general practice in carrying out the various steps is currently being developed through annual CEMP assessments. The assessment process is described in the CEMP assessment manual ([publication 379/2008](#)).

3.27 The QA information stored with the CEMP data in the ICES database provides the basis for data selection for, and presentation in, assessments. In extracting data from the ICES database, all data are checked for their quality, including checks of reference material analysis from the reporting laboratory, and errors and anomalies. This is assisted by "national comments" reported by Contracting Parties together with their annual CEMP data to provide background to the measurements and to explain any inconsistencies in

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<sup>1</sup> According to SIME 07/3/4

time series (e.g. change in analytical methods, extreme weather conditions etc.). Statements on the quality of the data used for the assessment are included in the presentation of assessment results.

3.28 To enable the assessment of substances with limited data availability, also data with poor or absent QA information are included in the assessment. For this a weighting procedure has been put in place in which such data are weighted weaker (0.2) than good quality data (1.0).

3.29 The assessment is made against Background Concentrations/Background Assessment Concentrations (BCs/BACs) and Environmental Assessment Concentrations (EACs). Statistical methods have been agreed by experts to derive these values. For deriving BCs/BACs, the best data available from remote or pristine areas and the variance typical in CEMP data sets were used. EACs have been developed in relation to ecological or toxicological information. General practice is being developed in expert interpretation of these values and of assessment results.

3.30 Trend analysis of CEMP data has been used to review the power of the monitoring programmes to detect temporal trends in concentrations and to suggest where sampling programmes needed to be refined and improved to enhance the confidence in trend detection.

## 3.2 Eutrophication Strategy

3.31 QA procedures for eutrophication relating to the area of interest of the Hazardous Substances and Eutrophication Committee (HASEC) concern information on sources, inputs and concentrations and effects in the maritime area. Previously a separate Committee – the Eutrophication Committee (EUC) – was responsible for monitoring and assessment of eutrophication.

QA procedures, including good practices relating to data handling, are important for the following activities under the Eutrophication Strategy:

- a. Eutrophication Monitoring Programme ([Agreement 2005-4](#)) as part of the CEMP;
- b. monitoring and assessment of waterborne and atmospheric inputs of nutrients under RID and CAMP ([Agreement 1998-5](#) and [Agreement 2001-7](#), respectively);
- c. the assessment of eutrophication status ([Agreement 2005-3](#));
- d. implementation reporting on [PARCOM Recommendation 88/2](#).

3.32 QA arrangements for RID, CAMP and CEMP are described above. For data products prepared by external bodies (e.g. emission/deposition data from EMEP), QA procedures of these bodies apply.

3.33 QA arrangements have been reviewed by EUC in the meeting cycles 2000/2001 (EUC 2000 Summary record, EUC 00/15/1) and 2003/2004 (EUC 2003 Summary Record, EUC 03/11/1). The review in 2006/2007 focused on implementation reporting and deficiencies identified in the quality of national implementation reports on PARCOM Recommendations 88/2 and 89/4 (EUC(1) 2006 Summary Record, EUC(2) 06/9/1).

3.34 The Secretariat should take steps to ensure that all material coming before a main committee about new arrangements, or changes in existing arrangements, for monitoring and reporting of data address the issue of quality assurance, or are accompanied by a reminder of the need for this to be addressed.

### **Sources and inputs of nutrients**

3.35 The OSPAR Guidelines for Harmonised Quantification and Reporting Procedures for Nutrients (HARP-NUT) ([Agreements 2004-2a](#), [2004-2b](#), [2004-2c](#), [2004-2d](#), [2004-2e](#), [2004-2f](#), [2004-2g](#), [2004-2h](#), [2004-2i](#)) have been developed to ensure harmonised and transparent reporting on inputs from different sources. Some of the guidelines address QA specifically. The use of these guidelines and the reporting format as amended by EUC(1) 2006 should ensure sufficient quality of the data.

3.36 QA procedures with regard to riverine inputs and direct discharges of nutrients are in place under the RID ([RID Principles](#)). In 2006/2007, INPUT 2007 reviewed these arrangements. This work is being continued. Quality assurance for atmospheric inputs is covered by the [CAMP Principles](#). (see above)

#### ***Concentrations and effects in the maritime area***

3.37 The Eutrophication Monitoring Programme is part of the CEMP, which is managed by HASEC. Contracting Parties are responsible for quality assurance and are requested to follow the guidelines adopted by OSPAR (Agreements 1997-2 - 19976 and 2002-15; see CEMP monitoring manual on the OSPAR website, [http://www.ospar.org/content/content.asp?menu=00900301400135\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00900301400135_000000_000000)). As data centre for CEMP data, ICES forms part of the quality assurance procedures in ensuring that the submitted data is in a form acceptable for the database.

3.38 The assessment of the eutrophication status is carried out by each Contracting Party for their water bodies under the Common Procedure for the Identification of the Eutrophication Status of the OSPAR maritime area (the 'Common Procedure', [Agreement 2005-3](#)). Each Contracting Party is responsible for quality assurance in the assessment procedure. Most of the data for the national assessments will have been collected under the Eutrophication Monitoring Programme. EUC(1) 2006 agreed that for any other data taken into account in the Common Procedure, Contracting Parties should include information on QA procedures followed in their national assessment reports and should follow guidance, prepared by EUC specifically for the application of the Common Procedure in 2007, on the information that Contracting Parties need to include in their reports.

### **3.3 Biological Diversity and Ecosystems Strategy**

3.39 The main flows of data and information supporting the work of the Biodiversity Committee are reporting of:

- a. national data in relation to ecological quality objectives;
- b. data and information on the identification and selection of marine protected areas;
- c. data and information in support of the nomination of species and habitats as threatened and/or declining;
- d. data to the OSPAR habitat mapping programme;
- e. data and information in support of any monitoring programmes for species and habitats on the initial list.

3.40 The main flows of data and information supporting the work of the Environmental Impact of Human Activities Committee (EIHA) concerns the reporting of data and information to support the assessment of the impact of human activities and some ecological quality objectives.

3.41 Previously the aspects of work on marine biodiversity and human activities was carried out within the responsibility of one Committee – the Biodiversity Committee (BDC) – whose remit has been redefined by OSPAR 2010.

#### ***Reporting of national data in relation to ecological quality objectives (EcoQOs)***

3.42 While BDC takes overview of the EcoQO system for the North Sea, responsibilities for monitoring and assessment, and associated QA, for some EcoQOs are within the remit of other Committees:

- oiled guillemots and plastic particles in fulmars are within the remit of EIHA;
- TBT-specific effects (imposex), contaminant concentrations in seabird eggs and eutrophication are within the remit of HASEC.



3.43 For those EcoQOs being applied in the North Sea, the descriptions of EcoQO implementation in the EcoQO Handbook (publication no. 307/2007) will include descriptions of quality assurance to the extent available.

3.44 The current phase of application of EcoQOs in the North Sea (up to 2010) is proceeding without formal adoption of quality assurance procedures or monitoring guidelines. For some EcoQOs supporting monitoring is already embedded within existing monitoring systems e.g. for imposex, eutrophication (cf. CEMP monitoring, section 3.1 above). For the EcoQOs on seals and oiled guillemots the first data submissions from Contracting Parties were made during 2007. Guidance on the formats for reporting of these EcoQOs has been developed as part of the EcoQO Handbook. Data submissions from Contracting Parties are scrutinised by the lead country before evaluation. An evaluation of the implementation of the EcoQO system is reported in OSPAR [publication no. 406/2009](#), highlighting further work to establish routine monitoring and QA procedures.

3.45 For EcoQOs under development, the lead country should make proposals for quality assurance during the development of the background documents.

#### ***Reporting of data and information on the identification and selection of marine protected areas (MPAs)***

3.46 As part of the implementation of OSPAR [Recommendation 2003/3 on Marine Protected Areas](#), Contracting Parties report on their identification and selection of MPAs to the lead country Germany using the OSPAR nomination database in accordance with the Guidelines for the identification and selection of MPAs in the OSPAR maritime area ([Agreement 2003-17](#)). Germany carries out a preliminary quality check on this information and the supporting GIS shape files for nominated MPAs before inclusion in the OSPAR nomination database.

3.47 Germany with the assistance of the Intersessional Correspondence Group on MPAs carries out a further check of the quality of data and information on MPAs in the context of the report on the status of the OSPAR network of MPAs.

#### ***Reporting of data and information in support of nomination of species and habitats as threatened and/or declining***

3.48 With regard to identifying species and habitats in need of protection, OSPAR has considered nominations of threatened and/or declining species and habitats. The agreement on the Texel-Faial criteria ([Agreement 2003-13](#)) sets out the contents of the reports that should be submitted in support of these nominations. After agreement by the Biodiversity Committee that a case has been made out on the basis of the evidence in the nomination, the OSPAR Commission arranges for appropriate quality assurance and peer review (for example, by the International Council for the Exploration of the Sea) of the evidence presented in support of the proposal. In practice ICES has been invited to review the evidence submitted in support of nominations for threatened and/or declining species and habitats in 2002 and 2007.

#### ***Reporting of data to the OSPAR habitat mapping programme***

3.49 The programme to map habitats on the Initial OSPAR List of Threatened and/or Declining Species and Habitats ([Agreement 2008-6](#)) has adopted the following quality assurance procedures:

- a. a guidance document is available which describes the type of data (and its format) which are to be provided by Contracting Parties;
- b. each of the habitats has a working definition ([Agreement 2008-7](#)), agreed by Contracting Parties, to ensure there is a common understanding of the habitat types for which data are sought;
- c. there is a standard Data Exchange Format (DEF) in which the data are to be supplied. This contains mandatory and optional data fields. The mandatory fields provide a minimum level of

detail considered essential to meet the QA requirements of the programme. The number of mandatory fields has recently been increased to improve the overall quality of the data, in particular to ensure each record is traceable to its original source;

- d. upon receipt of data from a Contracting Party, the lead country undertakes a check of the data to ensure it meets certain minimum requirements. This includes checking, geopositioning data, presence of duplicate records and whether all mandatory data are supplied correctly. Data quality issues are discussed with the relevant Contracting Party.

#### ***Reporting of data and information in support of any monitoring programmes for species and habitats on the initial list***

3.50 This is a developing aspect of BDC's work. The 2008 meeting of the former Working Group on Marine Protected Areas Species and Habitats (MASH 2008) was due to examine further developed strategies for monitoring of a selection of the species and habitats on the Initial OSPAR List of Threatened and/or Declining Species and Habitats. Guidance (*Annex 08, BDC 2008*) on the production of these strategies adopted by BDC 2007 asks lead countries to set out proposals for appropriate quality assurance.

#### ***Reporting of data and information to support the assessment of the impact of human activities***

3.51 OSPAR 2006 agreed that Contracting Parties should submit short statements on the quality assurance of the data submitted to contribute to the assessment of human activities. So far no national statements have been received. Part II of the annual OSPAR report on dumping of wastes at sea includes a table providing information on the quality assurance on the analyses of dumped material reported by Contracting Parties. Contracting Parties are invited to supply information on any quality assurance they apply to the reporting of data on human activities.

3.52 OSPAR Recommendation 2003/2 on an OSPAR Framework for Reporting Encounters with Marine Dumped Conventional and Chemical Munitions includes a [reporting format](#) which gives guidance on what to report and how.

3.53 The OSPAR Marine Beach Litter Monitoring Pilot Project ([publication no. 306/2007](#)) has developed and tested in fieldwork a common, standardised survey protocol for both a 100-metre and a 1-km stretch of beach. This provides a checklist of items that can be regarded as marine litter. To assist field workers further in their identification of marine litter items to be registered in the survey protocols, an illustrated, internet-based<sup>2</sup>, multilingual Marine Litter Guide has been developed. Items are grouped in the same way as in the survey protocols, named in ten project languages (translation by the national project coordinators) and illustrated by four-colour photographs. In some Contracting Parties additional national measures for quality assurance are also carried out.

### **3.4 Offshore Oil and Gas Industry**

3.54 QA procedures relating to areas of interest of the Offshore Oil and Gas Industry Committee (OIC) concern:

- a. the annual report on discharges, spills and emissions and data gathered for one-off reports;
- b. monitoring of concentrations in the marine environment;
- c. implementation reports on the effectiveness of measures.

3.55 QA arrangements have been reviewed by OIC in the meeting cycles 2000/2001 addressing the adequacy of QA procedures relating to the OIC work (OIC 2001 Summary Record (OIC 01/17/1) and 2003/2004, conclusion in OIC 04/14/1). OIC 2009 concluded the 2006/2007 review round based on

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<sup>2</sup> <http://www.marine-litter.net/who-what/who-Europe/OSPAR-monitoring/OSPAR-Monitoring.htm>



conclusions from the review by the Expert Assessment Panel (EAP) of quality assurance procedures regarding the annual reporting on discharges, spills and emissions.

### ***Discharges, spills and emissions***

3.56 Quality assurance of reported discharges, spills and emissions is covered by:

- a. the data collection format for annual reporting on discharges, spills and emissions from offshore oil and gas installations ([Agreement 2005-14](#)). The format gives guidance on what to report and how;
- b. the OIC Expert Assessment Panel which validates, reviews the reliability of, and assesses the data reported. The Expert Assessment Panel also considers any significant deficiencies identified in the QA procedures within the remit of OIC as part of its ongoing work, and proposes remedial action;
- c. procedures for sampling and analysis of oil in produced water ([Agreement 2006-6](#)).

3.57 The use of the data collection format, harmonised sampling and analysis procedures, the EAP, and certified laboratories should ensure transparency and harmonisation of what to report and how, and contributes to the quality assurance of data collection. Oil and gas operators are required to correlate their offshore analysis equipment with the OSPAR Reference method (GC-FID) using onshore certified laboratories. Some installations are visited by certifying laboratories to audit the analysis method and samples taken offshore are taken onshore for further analysis. In some occasions it is required that the correlation between the former OSPAR IR analysis method with the new GC-FID method is verified by an independent body. Samples taken offshore are also analysed onshore to validate the analysis carried out by individual operators. However only one part of the equation, *i.e.* the determination of oil concentrations in produced water is taken care of, while the other part, *i.e.* measurement of the volume of water discharged, is not. The quality of the measurement of that volume of produced water discharged is questionable. The UK uses 10% uncertainty measurement while the Netherlands requires 5%.

### ***Concentrations in the marine environment***

3.58 There is no routine reporting to OSPAR of concentrations in the marine environment. However, surveys and monitoring are taking place in some Contracting Parties. OSPAR has adopted Guidelines for monitoring the environmental impact of offshore oil and gas activities ([Agreement 2004-11](#)), which contain in section 4 provisions in respect of QA. OSPAR has also agreed on a harmonised reporting format to collect and compile data and information on environmental monitoring in relation to offshore oil and gas activities, which is a practical guidance for harmonizing information collection ([Agreement 2006-7](#)). This addresses also quality control requirements, and encourages Contracting Parties to report the principles of the performed quality control in the field and in the laboratory.

### ***Implementation reports on measures***

3.59 Implementation reports on effectiveness of measures implying generation of environmental data are covered by the data collected for the annual reports on discharges, spills and emissions. OSPAR also maintains an inventory of offshore installations as required by [OSPAR Decision 98/3](#) on disposal of disused offshore installations. The inventory is updated biannually and includes guidance on what and how to report.

## **3.5 Radioactive Substances Strategy**

3.60 QA procedures relating to areas of interest of the Radioactive Substances Committee (RSC) concern:

- a. reports on discharges, emissions and losses such as the annual report on liquid radioactive discharges from nuclear installations;
- b. monitoring of concentrations in the marine environment;

- c. implementation reports on the effectiveness of measures such as those on the application of Best Available Techniques in nuclear facilities, in compliance with [PARCOM Recommendation 91/4](#).

3.61 QA arrangements have been reviewed by RSC in the meeting cycles:

- a. 2000/2001 addressing the adequacy of QA procedures relating to the RSC area (RSC 2001 Summary Record (RSC 01/14/1));
- b. 2003/2004 addressing QA procedures for monitoring of concentrations of radioactive substances in the marine environment (RSC 04/13/1), and;
- c. 2006/2007 focusing on national statements on quality assurance of the data for discharges of radioactive substances (RSC 07/12/1).

### ***Emissions, discharges and losses***

3.62 Quality assurance of reported discharges data is covered by the reporting format ([Agreement 1996-2](#)) for liquid discharges of radioactive substances from nuclear installations. The Expert Assessment Panel, which reviews the information for the annual report on discharges from the nuclear industry, provides further assurance on the quality of information. OSPAR has also established reporting procedures for discharges of radioactive substances from non-nuclear sectors ([Agreement 2005-7](#)). The use of these reporting formats and procedures should ensure sufficient transparency, harmonisation and quality regarding what to report and how. These procedures will be complemented by national statements on quality assurance of the data for discharges of radioactive substances.

### ***Concentrations in the marine environment***

3.63 Quality assurance related to monitoring of concentrations of radioactive substances in the marine environment is covered by provisions in the agreement on a monitoring programme for concentrations of radioactive substances in the marine environment ([Agreement 2005-8](#)), the reporting format for concentrations of radioactive substances in the marine environment ([Agreement 2005-8](#)), and the national statements on quality control arrangements from Contracting Parties accompanying the monitoring reports.

3.64 OSPAR reviewed in 2004 the quality assurance for monitoring concentrations in the marine environment based on a report prepared by RSC. The report was presented to OSPAR in document OSPAR 04/15/7 Add.1. The report compiled the quality assurance procedures in various Contracting Parties and summarised the present stage of submission of environmental concentration data to national and international data bases and use of data bases for joint use for assessments.

3.65 OSPAR Contracting Parties take part in inter-comparison exercises organised by the IAEA. In 2007, 13 laboratories took part in the OSPAR-RSC ring test on radionuclides in Irish Sea seawater. A variety of analytical methods were used. The results showed an overall good performance. Another inter-comparison study has been organised by the IAEA. The study will be used to establish QA mechanisms for all components of the environmental monitoring programme.

### ***Implementation reports on BAT/BEP measures***

3.66 Implementation reporting under PARCOM recommendation 91/4 is conducted following Guidelines for the Submission of Information about, and the Assessment of, the Application of BAT in Nuclear Facilities ([Agreement 2004-3](#)). These guidelines call for quality assurance arrangements to be set out. These reports were peer reviewed by RSC and their details were subject to scrutiny.

## 4. References to QA procedures

This is an overview of documents containing guidance on quality assurance.

### 4.1 Policy

Policy of Quality Assurance. [Agreement 1990-3](#)

### 4.2 Sources and inputs

Principles of the Comprehensive Study on Riverine Inputs and Direct Discharges (RID). [Agreement 1998-5](#)

Principles of the Comprehensive Atmospheric Monitoring Programme (CAMP). [Agreement 2001-7](#)

JAMP Guideline for the Estimation of Riverine PAH Inputs into the North Sea and the North-East Atlantic. [Agreement 2002-12](#)

OSPAR Reference Method of Analysis for the Determination of the Dispersed Oil Content in Produced Water. [Agreement 2005-15](#)

Oil in Produced Water Analysis – Guideline on Criteria for Alternative Method Acceptance and General Guidelines on Sample Taking and Handling. [Agreement 2006-6](#)

### 4.3 Concentrations and effects in the maritime area

JAMP Eutrophication Monitoring Guidelines. Agreements 1997-2 to 1997-6 and 2002-15. Cf. CEMP monitoring manual ([http://www.ospar.org/content/content.asp?menu=00900301400135\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00900301400135_000000_000000))

JAMP monitoring guidelines for contaminants. Agreements 1997-7, 1999-2, 2002-16, 2008-9 and 2010-8. Cf. CEMP monitoring manual ([http://www.ospar.org/content/content.asp?menu=00900301400135\\_000000\\_000000](http://www.ospar.org/content/content.asp?menu=00900301400135_000000_000000))

OSPAR Guidelines for Monitoring the Environmental Impact of Offshore Oil and Gas Activities. [Agreement 2004-11](#)

Common Procedure for the Identification of the Eutrophication Status of the OSPAR Maritime Area. [Agreement 2005-3](#)

CEMP assessment manual. Publication 379/2008

Agreement on a Monitoring Programme for Concentrations of Radioactive Substances in the Marine Environment. [Agreement 2005-8](#)

Quality Assurance of Monitoring of Radioactive Substances: Presented by Germany. OSPAR 04/15/7/Add.1

### 4.4 Reporting procedures

OSPAR [Guidelines](#) on Identification and Selection of Marine Protected Areas. [Agreement 2003-17](#) as implemented through the OSPAR MPA nomination database

[OSPAR Recommendation 2003/2](#) on an OSPAR Framework for Reporting Encounters with Marine Dumped Conventional and Chemical Munitions

The OSPAR Guidelines for Harmonised Quantification and Reporting Procedures for Nutrients (HARP-NUT). ([Agreements 2004-2a](#), [2004-2b](#), [2004-2c](#), [2004-2d](#), [2004-2e](#), [2004-2f](#), [2004-2g](#), [2004-2h](#), [2004-2i](#))

Format for Annual Reporting on Dumping Operations at Sea. [Agreement 2009-3](#)

Data collection format for annual reporting on discharges, spills and emissions from offshore oil and gas installations. [Agreement 2005-14](#)

Procedures for sampling and analysis of oil in produced water. [Agreement 2006-6](#)

Reporting Format for Liquid Discharges of Radioactive Substances from Nuclear Installations. [Agreement 1996-2](#)

Revised Reporting Procedures for Discharges of Radioactive Substances from Non-nuclear Sectors. [Agreement 2005-7](#)

Reporting Format for Concentrations of Radioactive Substances in the Marine Environment. Linked to [Agreement 2005-8](#)

Guidelines for the Submission of Information about, and the assessment of, the application of BAT in nuclear facilities. [Agreement 2004-3](#)

Harmonised reporting format to compile environmental monitoring data and information related to offshore oil and gas activities. [Agreement 2006-7](#)

## 4.5 Other guidance

Criteria for the Identification of Species and Habitats in need of Protection and their Method of Application (The Texel-Faial Criteria). [Agreement 2003-13](#)

Guidelines for the identification and selection of MPAs in the OSPAR maritime area. [Agreement 2003-17](#)

Revised Guidelines for the Preparation of Draft OSPAR Background Documents and Draft OSPAR Measures. [Agreement 2004-01](#)

Guidelines for the Submission of Information about, and the Assessment of, the Application of BAT in Nuclear Facilities. [Agreement 2004-3](#)

# Appendix 1: Outcome of the Review of Quality Assurance Arrangements by OSPAR 2001

*(Source: Extract from the UK preliminary scrutiny of OSPAR's QA procedures which had been carried out by OSPAR working groups and Committees in 2000/2001. The full report is in OSPAR 01/9/3.)*

## **General observations/conclusions which can be drawn from preliminary scrutinies**

1. All Committees (or, where appropriate, their subsidiary working groups) reported to the UK. Broadly, QA procedures were satisfactory, but some gaps or weaknesses were identified. Generally, these indicate the need for progressive improvement of OSPAR's QA procedures in the medium term rather than radical overhaul in the short term.
2. The scrutiny of QA procedures within OSPAR is a large task. There are different circumstances relating to the data and information needs of the various OSPAR Committees. This would indicate that the main focus for any further scrutiny of QA procedures should reside at the Committee level. There might also be a need for an overview process to provide guidance on overall consistency within OSPAR. (Such an overview process could be an integral part of OSPAR's data collection, handling and storage proposals).
3. Initially, with a data collection process, emphasis is on obtaining any relevant data. Such data may be limited in quantity and quality and is likely to be provided by third parties. There may be some reluctance to providing data if QA procedures are too exacting or add disproportionately to resource costs. This reinforces the view that QA procedures need to be sufficient for purpose and applied sensibly so as to avoid inhibiting the flow of data. However, where there were deficiencies in the quality of data, the data should be flagged accordingly.
4. There are various levels of sophistication in the QA provisions and QA review processes employed by different OSPAR committees (or their subsidiary working groups). As one could expect this generally reflects the nature and life-span of the data collection activities and the resources already committed. Generally there is scope for improvement in most QA procedures. The need for such improvement tends to be greatest in areas where data collection is in its infancy.
5. The forgoing suggests that (for areas where there is a deficiency which is not being addressed) there needs to be some mechanism for improving QA procedures to a level where they are sufficient for purpose without adding significantly to costs or inhibiting the supply of data. Such a mechanism could be the application of a progressive, iterative process of improvement involving:
  - an assessment of current information and data;
  - a review of reporting requirements taking into account any deficiencies identified in that assessment;
  - an improvement in QA provisions (coupled with any necessary improvement to associated reporting requirements) with a view to making them sufficient for purpose.
6. Where there was a serious deficiency, the iterative process should be started early and the initial cycle should be completed with minimum delay. It would be the responsibility of each OSPAR Committee (or its subsidiary working groups) to initiate the iterative process for any activity within its remit, taking into account the overall workload and priorities within OSPAR.

## Recommendations

- A. OSPAR should take steps to improve its QA procedures with the aim of ensuring that all necessary procedures are in place and sufficient for purpose within a [ten-year] period.
- B. The main responsibility for improvement should be at OSPAR Committee level.
- C. OSPAR should consider how best to provide an overview process to ensure an adequate degree of consistency across the various Committees.
- D. To give an impetus to reviewing and making any necessary improvement to QA procedures, OSPAR should provide an appropriate action in the work programme for each committee.
- E. In the absence of any other proposals for making good deficiencies, OSPAR should recommend that the iterative process described above should be applied by the respective Committees with a target of completing the first iteration for any “seriously deficient” areas within three years.
- F. With regard to QA in “new activity” cases, OSPAR should consider allowing some discretion, ie accepting QA procedures which are less than optimal, where the essential flow of data may otherwise be inhibited.
- G. Committees should report on progress to OSPAR every three years.

# Appendix 2: Outcome of the Review of Quality Assurance Arrangements by OSPAR Committees 2004

(Source: OSPAR 04/15/7)

## Conclusions of the Main Committees

### ASMO

1. The Overall Evaluation and Review of OSPAR Strategies, presented to the OSPAR Ministerial meeting in 2003, stressed that “When a large number of different institutions are contributing to the information base that will be used for making assessment of the quality status of the marine environment, it is essential that great emphasis is placed on ensuring the quality of the information contributed. With the assistance of the International Council for the Exploration of the Sea and the European Community, and in cooperation with the laboratory performance schemes QUASIMEME and BEQUALM, OSPAR has therefore established QA programmes in this field to guarantee, as far as possible, that the conclusions reached are not undermined by doubts about the quality of the data on which they rest.”
2. The starting point for consideration of quality assurance in the main general monitoring programmes (Comprehensive Atmospheric Monitoring Programme (CAMP), the Coordinated Environmental Monitoring Programme (CEMP) and the Comprehensive Study of Riverine Inputs and Direct Discharges (RID)) therefore has to be that, within the limitations of the available resources, acceptable QA systems have been instituted.
3. ASMO has continued to build on this in various ways:
  - a. the principles for CAMP should be reviewed by INPUT during the 2004/05 cycle of meetings, in the light of :
    - i. information on the implications of the adoption by ASMO 2003 of the JAMP Guideline on methods and criteria for harmonised sampling and analysis of PAHs in air and precipitation;
    - ii. the outcome of the assessment of CAMP data;
    - iii. conclusions on monitoring strategies for OSPAR chemicals for priority action; and
    - iv. any further proposals for amendment from Contracting Parties.
  - b. there should be an intersessional correspondence group on the revision of the principles for the RID an intersessional working group on the revision of the RID Principles, taking into account:
    - i. the level of confidence that can be attached to RID data and how this determines the way in which data should be rounded, so as to develop a more consistent approach to the rounding of data;
    - ii. when it was appropriate to use, in future RID data reports or assessments, data derived from concentration measurements from samples taken in years other than the year covered by the report, taking into account that “NI” is the normal (default) option in most types of OSPAR reporting schemes when data are lacking;
  - c. the appendices setting out requirements for the CEMP only become obligatory when adequate QA arrangements exist. Work on this is undertaken as and when necessary.

4. There are therefore no specific proposals from ASMO at this stage for additional work on quality assurance.

### **BDC**

5. Apart from the reports on waste and other matter dumped at sea, there are currently no data collection programmes under BDC.

6. BDC is initiating arrangements on the collection and reporting of data on threatened and/or declining species and habitats, beginning with a questionnaire to Contracting Parties on their present arrangements. QA issues will need to be considered in developing this process. Likewise, quality assurance will need to be addressed in developing a reporting system on marine protected areas.

7. As far as concerns the data on the dumping of wastes and other matters, this deals overwhelmingly with dredged material. The Guidelines on the Management of Dredged Material (a revised version of which is to be considered under Agenda Item 5) make detailed provision in the Technical Annex for the analysis of material to be dumped. The Reporting Format for the data on dumped wastes and other matter also requires information on QA arrangements which is reflected in the annual reports on dumping of wastes at sea.

8. There are therefore no specific proposals from BDC at this stage for additional work on quality assurance.

### **EUC**

9. EUC 2000 had not identified any significant deficiencies in QA procedures relating to its areas of responsibility within OSPAR. Taking this into account and in view of the current initiatives on reviewing and, as necessary, improving implementation reporting, monitoring and eutrophication assessment which would tend to enhance QA standards, the United Kingdom, as lead country, suggested that there was no need for any specific mechanism to make good material deficiencies in QA procedures within the remit of EUC.

10. Following discussion, EUC agreed to report that no significant deficiencies had been identified in the QA procedures within the remit of EUC, and that therefore, at the present time, there was no need for any specific additional mechanism to address QA procedures within the remit of EUC.

### **HSC**

11. The United Kingdom, as lead country, presented an overview document which suggested that, given HSC's wide remit, the approach to quality assurance had to be pragmatic. The document gave examples of this pragmatic approach. Building on this, it was proposed that HSC should consider asking the lead country for any new activities to address in its proposals the way in which the quality of the necessary information would be controlled and assured.

12. After a short discussion, HSC agreed that:

- a. the general lines of the United Kingdom's proposal should be accepted;
- b. the report on quality assurance should state that:
  - i) HSC is alive to the need to apply QA principles in its work;
  - ii) its general approach is to consider the QA requirements relating to each new activity when it is starting up, and to check that these are fit for the purpose as the activity unfolds;
  - iii) the HSC overview document on quality assurance provides examples of this;
  - iv) HSC has not identified any serious deficiencies in the application of quality assurance in its work;
  - v) HSC is asking all lead countries for new activities to set out in their proposals the QA issues that need to be addressed in taking the work forward.



**OIC**

13. In view of the fact that the current initiatives on reviewing and, as necessary, improving harmonised implementation, reporting, monitoring and assessment undertaken by OIC should be sufficient to enhance QA standards, OIC 2004 agreed to report to OSPAR 2004 that the Expert Assessment Panel was looking into any significant deficiencies that were identified in the QA procedures within the remit of OIC as part of its ongoing work, and that therefore, at the present time, there was no need for any specific additional mechanism to address QA procedures within the remit of OIC.

**RSC**

14. RSC examined a report from the Intersessional Working Group JAMP-2, led by Dr Hartmut Nies (Germany), on QA procedures for the monitoring programme for concentrations of radioactive substances in the marine environment (RSC 04/5/1).

15. The report concluded that:

- a. a great deal of effort is already being given to analytical QA at the laboratories of Contracting Parties, in order to assure a high level of precision in environmental radioactivity concentration data;
- b. the procedures for QA of analytical work followed in the laboratories of the Contracting Parties that have reported are very similar, and achieve a high level, in accordance with the requirements of international standards;
- c. the detection limits for various radionuclides in the seawater, sediment and biota compartments are very similar due to the fact that in most cases similar analytical methods are applied. The detection limits indicated by the laboratories are sufficient to detect the most relevant radionuclides in the OSPAR maritime area as far a radiation dose is concerned.

16. RSC made arrangements for this report to be revised by Dr Nies. The current state of the report is presented as OSPAR 04/15/7 Add.1 and incorporates further information from Belgium, Denmark and Sweden. The report is to form part of the basis for the work of the intersessional correspondence group to complete the development of the system of monitoring and reporting concentrations of radioactive substances in the marine environment (JAMP product RM-1).

17. In the light of this report, RSC concluded that that the QA procedures relating to its work are sufficient to ensure the necessary quality assurance of environmental monitoring.

**General conclusions**

18. The following conclusions can be drawn from this review of OSPAR QA arrangements for the data collected:

- a. in general, within the constraints of the available resources, QA arrangements are given considerable attention and are acceptable;
- b. it is important that, as new monitoring and reporting arrangements are agreed, QA arrangements should be specifically considered;
- c. it will be important to have a further look at the issue of quality assurance when work begins on putting together the QSR 2010.

## Appendix 3: Arrangements for the review of Quality Assurance Procedures by OSPAR Committees in 2006/2007

(Source: OSPAR 06/14/8)

1. Most of the OSPAR Committees have discussed arrangements for the review of the quality assurance practice scheduled to take place in the next meeting cycle.

### **ASMO**

2. Quality assurance is an integral part of several of the activities under ASMO (quality assurance procedures for chemical and biological measurements, quality assurance aspects of JAMP guidelines and of RID principles). ASMO has agreed that the review next year will be a compilation of QA arrangements under ASMO, based upon a report from a task manager and the outcome of the 2005/2006 review of QA of the RID Principles. A task manager for the review still needs to be identified.

### **BDC**

3. BDC 2006 did not discuss arrangements for the QA review. However, BDC data collection falls into two categories:

- a. long-standing series, such as the data on dumping at sea;
- b. data-collection that is under development, such as the monitoring of threatened and declining species and habitats.

4. For the former, it might be appropriate to apply the approach that is being suggested for RSC – that is, to develop short statements by each Contracting Party on the quality assurance that they apply to the data that they report (or, if more appropriate, a short statement on the sources and reliability of that data, on the lines proposed for HSC).

5. For the latter, it should be enough to follow the approach described in paragraph 2(b) above.

### **EUC**

6. EUC(2) 2005 considered what to address and how to organise the review of its QA procedures to be performed during the 2006/2007 cycle of meetings. During the discussion the following points were made:

- a. quality assurance did not only concern accuracy and precision of reported data, but was an important element in all our work, including procedures for reporting, in order to ensure that reliable conclusions could be drawn;
- b. some Contracting Parties were satisfied that the current procedures were sufficiently good for the purposes of OSPAR, and that there were no indications that the quality of work under EUC had changed since the last review, and that, therefore, a review of QA procedures was not needed at the present time;
- c. other Contracting Parties pointed out that there was scope for improvement of the QA procedures, referring to the experiences from the current round of implementation reporting which had identified lack of traceability of the information as a problem;
- d. the review of QA procedures next year could concentrate on one activity rather than addressing all the activities under EUC; a focus could be for example the national reports from the second application of the Comprehensive Procedure or implementation reporting.

7. Following discussion, EUC agreed that the review of QA arrangements by EUC in the cycle of meetings 2006/2007 should focus on implementation reporting and:

- a. report on any deficiencies identified in the quality of national implementation reports on PARCOM Recommendations 88/2, 89/4 and 92/7 as brought to light in the overview assessments;
- b. as appropriate, propose remedial actions (such as improved procedures and reporting formats) to ensure traceability and sufficient quality of data and methods used for the next reporting round in 2007/2008.

### **HSC**

8. When HSC(1) 2006 considered how to organise the review of the QA arrangements, the Secretariat pointed out that experience suggested that a lead country approach would not be a profitable way in which to approach this problem. The Secretariat therefore suggested that:

- a. where HSC relied on data from CAMP, CEMP and RID, they should work on the basis that the agreements under which those programmes were conducted gave sufficient quality assurance;
- b. for the monitoring strategies, those who were responsible for each section of that work should agree to develop a short description of the sources and reliability of the data that was produced, for incorporation (perhaps in an annex) in the assessments in which the data was used;
- c. the Secretariat would take to develop an example of such a short description for one of the sections for which they were responsible, which (after review by HSC) could serve as a model for the others who were managing each section of the work under the monitoring strategies.

9. Germany was concerned that this might produce a lot of work for lead countries, and might only lead to excluding data on the grounds that it was not sufficiently reliable, when it was the only data that was available. The Secretariat emphasised that it was not intended that the short descriptions of source and reliability of data should be a threshold that data had to be able to cross before it could be used, but rather background information that readers could use to make their own evaluation of the reliability of the data.

10. HSC agreed that it would not seek to appoint a lead country to conduct a review of quality assurance, but follow the suggestion of the Secretariat, at least until they could see what it entailed.

### **OIC**

11. OIC invited the Expert Assessment Panel to review quality assurance procedures regarding reporting on discharges, spills and emissions in the 2006/2007 meeting cycle.

### **RSC**

12. The Programme of Work of RSC reflects this commitment as a 2006/2007 product but no task manager had been yet identified for RSC quality assurance.

13. RSC had already addressed the question of quality assurance in the national statements on quality assurance on monitoring concentrations of radioactive substances in the environment. The UK had provided an example, and Belgium, Germany, Ireland and the Netherlands had already provided theirs. This approach could be extended to cover quality assurance of discharge monitoring. With quality assurance of concentrations and discharge monitoring covered, RSC would have done practically all that is necessary.

14. RSC agreed that Contracting Parties should submit to the Secretariat six weeks before RSC 2007 national statements on quality assurance of the data for discharges of radioactive substances to complement those already agreed for concentrations. If they wished, Contracting Parties could combine these statements.



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