



European Union Network for
the Implementation and Enforcement
of Environmental Law

IMPEL Project

**LINKING THE WATER FRAMEWORK DIRECTIVE
AND IPPC DIRECTIVE**

Report of Phase 2 of the Project

September 2011



Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the EU Member States, acceding and candidate countries of the European Union and EEA countries. The association is registered in Belgium and its legal seat is in Brussels, Belgium.

IMPEL was set up in 1992 as an informal Network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

During the previous years IMPEL has developed into a considerable, widely known organisation, being mentioned in a number of EU legislative and policy documents, e.g. the 6th Environment Action Programme and the Recommendation on Minimum Criteria for Environmental Inspections.

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on both technical and regulatory aspects of EU environmental legislation.

Information on the IMPEL Network is also available through its websites at:
<http://europa.eu.int/comm/environment/impel>
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<p>Executive summary:</p> <p>The IPPC Directive 2008/1/EC and Water Framework Directive 2000/60/EC are two of the most wide-reaching items of EU environmental law. They have presented many challenges to the Member States. Installations regulated under IPPC may impact on the water environment, such as through direct or indirect discharges of pollutants, water abstraction, etc. IPPC requires installations to operate to conditions in permits compliant with Best Available Techniques (BAT). They are also required to respect environmental quality standards established in EU law, including those derived under EU water law. However, the relationship between the two sets of obligations is often far from simple. Therefore, ensuring integration of the implementation of the Directives is a challenge and this report seeks to analyse the different elements underlying this challenge. A desk based legal/policy analysis of these interactions was presented in an earlier report of Phase 1 of this project.</p> <p>This report describes the results of Phase 2 of the project which sought views and best practice from IPPC regulators and water authorities in IMPEL member countries. This was achieved through a questionnaire approach to the authorities and a workshop to examine key issues, practices and recommendations. Important conclusions from the project are:</p> <ul style="list-style-type: none"> • It is important for IPPC operators and regulators to have accurate information on the objectives of the water Directives in order to make legally robust operational and regulatory decisions. • IPPC permit conditions need to ensure installations operate so as not to threaten the objectives of the water Directives. This may require going 'beyond' BAT. • There is significant complexity with multiple sources of pollutants to water (IPPC and/or non-IPPC), which is a regulatory challenge for industrial regulators and water authorities. They need accurately to assess the relative importance of the different sources regarding pressures of concern. • BREFs have provided some assistance to regulators in addressing water issues, but they do not provide sufficient guidance to help in addressing water objectives derived from EU law. • Guidance under the CIS has addressed some interactions with IPPC/IED (e.g. for mixing zones), but further guidance (or elaboration of existing guidance) is needed on the regulatory obligations and regulatory opportunities that arise from the interaction with IPPC/IED. • There are extensive monitoring requirements for all of the Directives addressed in this project and IPPC and water authorities have used data from the different regulatory 	

regimes. However, much could be done to improve the utility of data between regulatory regimes, including in some cases simply making such data more readily available.

- The institutional relationships between IPPC and water authorities vary enormously between Member States. It is important to put procedures in place to facilitate ways of working together to ensure that the right information is shared, that information exchange is timely and that management decisions, therefore, are more robust. Coordination and cooperation are key factors for success.

The project makes recommendations to the European Commission, the BREF process, water directors, IMPEL and to national authorities. Those to the Commission include:

- In developing guidance for inspection under the Industrial Emissions Directive the Commission should include consideration of how inspectors should meet the requirement to assess the impact of installations on the (water) environment.
- The European Commission should develop guidance on key issues and processes for co-operation between water authorities and competent authorities for IPPC/IED, drawing on best practice in the Member States.

Recommendations regarding BREFs include:

- Future BAT conclusions should, where relevant, include a section on interaction with water objectives.
- The cross-media BREF should include a wider examination of the interaction with water objectives arising from the water Directives.
- The interaction between discharge monitoring and wider ambient monitoring ought to be addressed in any future revision of the BREF on monitoring.

Recommendations to the water directors include:

- In developing guidance, the water directors should ensure greater consideration is given to relevant interactions with the role of IPPC regulation, including on the justification to go 'beyond BAT' where EU environmental quality standards are at risk.
- Consideration should be given to developing guidance addressing the diffusion of pollutants within mixing zones and the effect of different flow regimes on pollutant concentrations compared to mixing zone designations and how this relates to compliance with the EQSD.

Recommendations to IMPEL include:

- IMPEL should examine best practice in the assessment of impacts of installations on the surrounding environment, including on multiple sources.
- IMPEL should examine best practices in the regulation of industrial estates in order to optimise both regulatory decisions for businesses and environmental outcomes.
- IMPEL should examine best practices in the Member States on measures to control discharges from non-IPPC installations and how such measures relate to IPPC regulatory approaches.
- IMPEL should examine best practices in the Member States and develop tools regarding the role of inspectors in assessing environmental impacts of installations during inspections as required by the IED.

Recommendations to IMPEL members and other country-level authorities include:

- Member States should consider how the obligations in different aspects of environment law (in this case industrial and water law) can be better integrated.
- Member States should give further consideration to the practical and legal implications of the application of the 'combined approach' as required by both the IPPC Directive and the WFD.
- A 'holistic' approach by permittees, inspectors and water managers to working with operators should be adopted, addressing the objectives of all relevant EU Directives together.
- It is recommended that IPPC monitoring data are collated by IPPC authorities (or

other relevant bodies) in an on-line format for ease of access. Furthermore, access to these data should be available to water authorities so that they are able to use the data in assessment of water body issues in a timely manner.

- In determining BAT for installations, it is important to assess the critical points where accidents could result in impacts on waters and manage these where possible.
- It is important that effective and efficient systems are established for data sharing between (and within) authorities responsible for IPPC/IED implementation and those for water management.

Disclaimer:

This report is the result of a project within the IMPEL-Network. The content does not necessarily represent the view of the national administrations or the Commission.

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ACRONYMS

BAT	Best Available Techniques
BAT AEL	BAT Associated Emission Level
BREF	BAT Reference Document
CIS	Common Implementation Strategy
EIA	Environmental Impact Assessment
EQSD	Environmental Quality Standards for Water Directive
ELV	Emission Limit Value
GBR	General binding rule
GES	Good ecological status
GWD	Groundwater Directive
IED	Industrial Emissions Directive
IPPC	Integrated Pollution Prevention and Control
p.e.	Population Equivalent
POM	Programmes of Measures
RBMP	River Basin Management Plan
WFD	Water Framework Directive

1. INTRODUCTION

The IPPC Directive 2008/1/EC and Water Framework Directive (WFD) 2000/60/EC are two of the most wide-reaching items of EU environmental law. They have presented many challenges to the Member States and continue to do so. These challenges have included interpretation of the provisions of the Directives and the enormous practicalities of implementation. Each of these Directives is also supported by other EU law, such as E-PRTR, the EQS Directive, GWD and others. Each of these has their own implementation challenges.

The IPPC Directive and WFD strongly interact. IPPC requires the permitting process to consider environmental objectives (such as those derived from the WFD) and the WFD requires action to be taken on pressures on water bodies (which may include provisions for IPPC installations). The nature, timing, scope and limitations of these interactions (and more specific interactions with the 'supporting' Directives) are not always clear and they present a major challenge for competent authorities in the Member States to address.

IMPEL established a project in 2010 to examine these issues. The objectives of the project were:

- To define the relationship (complementary and competition) between IPPC implementation and WFD implementation from the scope of permitting, enforcement and data collection. Also the following Directives were to be taken into account: EQS Directive, Groundwater Directive and urban waste water treatment Directive.
- An inventory of problems and best practices in the member states, with regard to permitting, enforcement, data collection and data collection systems.
- Provide recommendations for competent authorities to contribute to better implementation and enforcement of the WFD requirements and the (reviewed) IPPC directive, to contribute to better performance of environmental inspections and permits in the Member States.

The report of this project formed phase 1 of the current project. It can be found at: [http://impel.eu/wp-content/uploads/2011/01/WFD-IPPC-final-report-phase-1-GA-101118-5 .pdf](http://impel.eu/wp-content/uploads/2011/01/WFD-IPPC-final-report-phase-1-GA-101118-5.pdf).

At the late 2010 General Assembly, IMPEL agreed on the scope of phase 2 of the project. The aim of this project was to collate information on issues, concerns and practices in the Member States concerning the interaction between the IPPC Directive and water Directives and to have a workshop to discuss these issues and make recommendations.

This report presents a collation and analysis of the results of the practices and views of relevant authorities in the Member States obtained during the course of this

project. The report initially sets out the methodology by which this information was obtained.

The report then reports the results of the project. It structures the information by initially examining how IPPC regulators have addressed the objectives of the water Directives through permitting, going 'beyond BAT', etc. It then examines how pressures from IPPC installations are addressed in River Basin Management Plans. There are also specific sections on groundwaters, mixing zones, permit reviews and other issues. The report concludes with information and views on how IPPC and water regulatory authorities work together and how this might be improved.

The report concludes with recommendations for a range of decision makers, including the European Commission, the BREF process, water directors, IMPEL and to national authorities responsible for implementation of the IPPC Directive and water Directives.

2. METHODOLOGY

Information from regulatory authorities for the IPPC Directive and water Directives was obtained using a questionnaire distributed to IMPEL co-ordinators. The questionnaire was devised and agreed by an Advisory Group overseeing the progress of the project. A copy of the questionnaire is provided in Annex I to this report.

The questionnaire was structured by focusing on different aspects of the IPPC regulatory cycle and WFD planning cycle, with additional specific questions on subjects such as groundwaters and mixing zones as well as practical issues around collaborative working. The questionnaire was structured in two parts, with the first part to be completed by IPPC regulators and the second part by water authorities.

Overall 15 responses were received to the questionnaire. Nine of these were from IPPC regulators (from Austria, Denmark, Ireland, the Netherlands, Portugal, Romania, Slovakia and Sweden). Seven were from water authorities (Denmark, Italy, the Netherlands, Portugal, Slovakia and Sweden). Five of the water authorities that responded are also IPPC regulators. Some of the authorities are national level bodies, some regional. The full list of respondents is given in Annex II to this report.

To debate further the issues concerning the interaction between the Directives, a workshop was held in The Hague from 23-24 June 2011. The workshop was attended by 19 participants from 12 countries and included representatives from IPPC regulators and water regulators. A list of the participants is provided in Annex III to this report.

The report was prepared by Andrew Farmer and Victoria Cherrier of the Institute for European Environmental Policy. The draft was discussed by the project team and comments were received from workshop participants and authorities which responded to the questionnaire in order to verify the information in the draft report. Their comments were used to finalize the report.

3. RESULTS OF THE PROJECT

3.1 Overview

This section of this report sets out the results of the Phase 2 project. The results are derived from integrating the information provided by authorities through the questionnaire process and the discussions at the project workshop.

The results are presented according to the following issues:

- Information on water objectives for IPPC operators
- Obligations in permit applications
- IPPC permit conditions and requirements of the water Directives
- BAT reference documents
- Going 'beyond' BAT and use of exemptions
- Pressures and measures in River Basin Management Plans
- Combined pressures
- Setting objectives for IPPC installations in River Basin Management Plans
- Groundwaters
- River basin specific pollutants
- Mixing zones
- Monitoring
- Inspection and compliance assessment
- Permit review
- Improving the ability of IPPC regulators to address the obligations of the water Directives
- Co-ordination between IPPC regulators and water authorities

3.2 Information on water objectives for IPPC operators

IPPC regulators were asked whether operators have the necessary information to consider the consequences of the operation of IPPC installations on the specific objectives. Ten authorities considered that they do have sufficient information at the national level, one did not. Skåne, Sweden, while stating that it did have sufficient information did note that there is a lack of monitoring information for many water bodies (including transboundary). The Box below provides details of the how water information is made available to users. Six authorities also considered that they have sufficient information for transboundary concerns, while three did not.

Examples of the available types of information to operators include:

- *Austria*: legislation and ordinances defines EQS for chemical and ecological water quality. Relevant water information is available online, including guidance.

- *Ireland*: legislation makes clear the requirements on operators and relevant water information is available online.
- *Denmark*: information is available online.
- *Netherlands*: operators are required by law to assess impacts, e.g. on water. An assessment framework at national level has been developed which operators should use. This includes an assessment on water quality and this takes account of EU guidance on mixing zones. The government has also established the organisation 'infomil' to assist in communication of obligations to industry. Rijkswaterstaat, for example, has recorded the assessment criteria for the effects of measures on ecology. Further information (e.g. source documentation) is available in the relevant RBMP, including reference to standards adopted to implement the WFD. For transboundary concerns operators are required to collect the necessary information.
- *Romania*: information is available online through the Ministry of Environment and Forests, Environmental Protection Agency and Romanian Waters National Administration.
- *Slovakia*: information is available online through the Slovak Environmental Agency and the Slovak Hydrometeorological Institute.

Box: Water Information System (VISS) Sweden (www.viss.lansstyrelsen.se/)

VISS is a database containing all major lakes, rivers, groundwaters and coastal waters of Sweden. Its main purpose is to provide comprehensive information regarding water to people working with water on a day to day basis. The information is also available for the general public to encourage participation in the work to improve the status of our waters. Much of the information in VISS is not easily understandable if one is not familiar with terms used within the WFD. To help, there is a help system called VISS-hjälp. A technical help system is also available explaining the functionalities of the web site. Both help systems are being developed continuously to help users find the information they are looking for. Users are now able to create their own profile under "my pages" with shortcuts to their favourite waters. The GIS-service Water Map is now integrated in VISS and the export of data has been simplified.

3.3 Obligations in permit applications

Respondents were asked whether all operators are required to take into account the objectives of the water Directives in new permit applications. All but one respondent stated that this is a requirement, the exception stated that the requirement is not formalised and not a requirement on all operators. Examples of obligations include:

- *Austria*: Ordinances define chemical and ecological EQS for waters. All new permits have to comply with these EQS.
- *Netherlands*: the obligations on operators are prescribed in the Environmental Management Act. This sets out the objectives for water bodies

and requires that permits must not be inconsistent with these objectives. Indeed, the permit must be revoked if it is not consistent with those objectives. Thus the objectives of the WFD have been translated into the assessment frameworks for operators' licensing. In the Netherlands an IPPC permit is comprised of two parts – the Water Act licence and the Environmental Act licence. These are required to be co-ordinated in process and assessment of objectives. However, one authority stated that assessment by the authorities is now more difficult since the waterboards lost their permitting functions to the Provinces.

- *Portugal*: the law requires that IPPC permits include separate water permits. In order to obtain the latter, operators need to assess their consequences for water objectives.
- *Romania*: operators are required to obtain a notification or permit from the Romanian Water National Administration.
- *Slovakia*: legislation requires that operators must prove that their activities are consistent with the transposed objectives of the water Directives.
- *Skåne, Sweden*: when applying for a permit, operators must describe their impact on the objectives of the water Directives.

3.4 IPPC permit conditions and requirements of the water Directives

IPPC installations that discharge into water bodies may impact on the status of those water bodies affecting chemical and/or biological status and, therefore, could negatively affect the obligations on Member States of meeting the objectives of the WFD.

Respondents were asked whether they were aware of discharges from BAT compliant IPPC installations that potentially affected the attainment of WFD objectives. Many respondents stated that they were not aware of any such installations, with the possible exception of accidental discharges. However, some did identify such cases (with further examples from water managers in section 3.7 below). In *Austria* BAT was introduced in water legislation in 1990, however it has not yet been determined if any BAT compliant installations negatively affect the attainment of the objectives of the water Directives. Waterschap Veluwe, *Netherlands*, noted that most IPPC installations discharge to sewer rather than directly into water bodies, so that the issue did not arise). Rijkswaterstaat, the *Netherlands*, however, noted that some BAT compliant sewage treatment works were discharging nutrients at levels above those necessary to meet water objectives and that this was being discussed with the relevant operators. *Skåne, Sweden* also stated that discharges from more polluting discharges are discussed between water managers and operators.

Ireland stated that it was currently reviewing the extent of interaction between IPPC installations and their impact on the objectives of the water Directives. The legal situation was clarified with the transposition into national law of the EQSD (in 2009)

and the GWD (in 2010), highlighting the application of the combined approach. The Environmental Protection Agency has 600 licences to review (covering IPPC and waste installations). A decision-tree analysis was initially used to quickly identify which licences required more detailed review, leaving 80 for further review. Assimilative capacity calculations are used to determine appropriate loads for water. One of the outcomes of such a review is that consideration is being given to the types of information necessary to examine impacts of discharges (in this case, particularly in transitional and coastal waters).

Portugal noted that discharge permits to water are issued by the water authority, not the IPPC authority. The water authority has to determine which ELVs would be compliant with environmental quality standards as standardised ELVs would not ensure compliance for all water bodies. As a result discharge tests are used to assist in this process and, for dangerous and priority substances, the permits establish ELVs in concentration units and in mass units for the daily maximum loads.

Respondents were asked whether they were aware of cases where permits had been issued which allowed discharges into water even when that water body was not in good status due to that pollutant. All IPPC regulators except two replied that they were not aware of such cases, with one stating that such a case would result in a permit review and that permit conditions would require the level of discharge to no longer pose a risk to water objectives within the timetable of the relevant water management plan. One respondent did state that such a case existed. Such a case may occur if the contributions from that installation are minor compared to other sources, if the discharge existed before issuing the permit, if it is not technically or economically feasible to change the discharge and also if there are particular political or governance issues.

It was also noted that discharges to waters which are also designated as Natura 2000 sites would result in an environmental impact assessment.

The workshop noted that assessment tools for examining the impact of discharges have limitations. Hydrological models have assumptions regarding flow conditions, for example. Therefore, extreme flow conditions may result in discharges causing exceedence of environmental quality standards and it is not clear, therefore, whether the decisions made on this basis are legally robust.

Respondents were also asked if there were pressures on the objectives of the water Directives arising from IPPC installations in another Member State. None reported that there were, with one respondent stating that transboundary co-operation allowed for pressures and measures to be determined in a collaborative manner and *Austria* stated that in such a case the Ministry would be required to reach agreement with the neighbouring country. *Skåne, Sweden* did state that one permit application raised concerns over transboundary water issues with Denmark and the application was forwarded to Denmark for comment.

3.5 BAT reference documents (BREFs)

Regulators were asked which BREFs they found useful in taking account of the objectives of the water Directives and which were less useful. BREFs that were considered useful included (with the proviso that some require updating):

- Cross media and economics
- Monitoring
- Common waste water and waste gas treatment in the chemical sector
- Food, drink and milk industries
- Emissions from storage
- Waste treatment industries
- Paper and pulp
- Surface treatment of metals
- Surface treatment using organic solvents
- Tanning of hides and skins
- Textiles industry
- Abattoirs
- Iron and steel industry – especially regarding reuse of recovered oil and treatment of separated water
- Large combustion plants – especially regarding separation of oil in drainage water and thermal issues
- Intensive animal units – especially regarding spreading of manure and checking of manure storage systems

However, it was also noted that some information is now out of date and that many BREFs do not contain sufficient information to guide decisions with regard to the water Directives and there are views that BREFs should be updated to address WFD issues. One respondent considered that a section on water in each BREF would be a useful addition. *Austria* noted that BAT is laid down in legislation and ordinances and regulators do not refer to the BREFs.

Some countries (e.g. Austria and Norway) do not distinguish IPPC and non-IPPC installations in the application of BAT and, therefore, national approaches to interpreting BAT, such as derived from BREFs, have a wider significance.

At the workshop the issue of the WFD objective to aim to phase out the discharge of priority hazardous substances was raised. Where such substances are allowed to be released in IPPC permits, it was suggested that a review might be needed. However, it was also noted that BREFs do have BAT AELs for such substances (e.g. mercury). It was, therefore, suggested that the BREF revision process examines future BAT conclusions in the light of the WFD objectives, including those for priority hazardous substances.

The workshop also concluded that additional techniques for the establishment and operation of installations should be considered within the assessment of BAT. For

example, there is concern over diffuse pollution arising from run-off from the surfaces of installations. This is not adequately addressed in BREFs. Some countries (e.g. Norway) do include obligations in permits (e.g. to collect all surface run-off and treat before discharge). Sustainable urban drainage systems (SUDS) is one approach to this issue. It would, therefore, be appropriate for relevant BREFs to consider how far SUDS should be included in the definition of BAT for different types of installation.

It was noted at the workshop that at least one country did not agree that conclusions on BAT in the BREFs were always correct, in particular relating to treatment for effluents to water (i.e. biological treatment for pulp and paper discharges) where there is considerable mixing. Also at the workshop there was concern over the wide range of BAT AELs in some BREFs and that with the formalisation of adoption of BAT conclusions under the IED, there might be pressure for this range to increase.

The workshop did conclude that it would be useful for future BAT conclusions to include a section on interaction with water objectives and, indeed, the cross-media BREF should include a wider examination of the interaction with water objectives arising from the water Directives.

3.6 Going 'beyond BAT' and use of exceptions

The Phase 1 report and the workshop highlighted that BAT is the main driver for the determination of IPPC permit conditions. However, emissions based on BAT are a necessary, but may not be a sufficient, criterion for permitting. It is also necessary to consider the surrounding environment. This applies to bespoke permits, the application of GBRs and the complexities of addressing multiple pollutant discharges.

Authorities were asked if there are cases where permit conditions require installations to go 'beyond BAT' to meet the objectives of the water Directives and, if so, what measures are required. Most respondents stated that there were no such examples (one noting that it is not relevant as all discharges are to sewer). In *Ireland* this would be decided on a case-by-case basis and if found would require discharges either to be reduced further or relocated. In *Skåne, Sweden*, there is currently work to identify all installations that may have negative impacts on water objectives. *Rijkswaterstaat in the Netherlands* indicated that there are such cases. This results from a failure to meet the overall water quality test. Examples given are:

- A rendering plant which discharges nutrients to a water channel with limited capacity. There is ongoing discussion on the use of membrane filtration.
- A plant which discharges phosphates. Additional phosphate precipitation is required in addition to the biological treatment.
- A plant concerning nitrogen removal from the blast furnace and coke over gas-water and waste water.

- A number of sewage treatment plants are required to undertake additional nutrient removal such as an MBR reactor or effluent polishing.

Authorities were also asked if there were permit conditions requiring installations to go ‘beyond BAT’ to meet the objectives of other environmental Directives. All reported that they did not know of such cases. In Skåne, Sweden assessments are ongoing. The following box illustrates the relative loads on nutrients from different sources for the River Kävlingeån. It shows that industries contribute 0.74% of the P-load and 2.12 % of the N-load. Thus “before we think about going beyond BAT there is a lot of work to be done regarding other sources”. In Austria, if BAT levels, which are prescribed in ordinances, are insufficient to meet water quality objectives (good water quality) than conditions beyond BAT are obligatory. However, no such cases are known. Also in Austria the water law allows for operation at a lower level than BAT if water quality objectives in EU law are not breached (the law does not mention disproportionate costs in this regard).

Källa/Belastning	Tot-N (%)	Tot-N (ton/year)	Tot-P (%)	Tot-P (ton/year)
Wastewater treatment plants	7.44	178.44	7.82	2.68
Industry	2.12	50.70	0.74	0.25
Water from roads in cities	0.81	19.49	4.05	1.39
Household treatment plants	0.98	23.51	8.96	3.07
Farming anthropogenic	66.80	160.11	42.26	14.50
Farming background	17.02	408.06	28.68	9.84
Other:	4.83	115.73	7.49	2.57

Authorities were asked if they apply any additional measures in such cases (e.g. compensation measures). All stated that this was not the case for the water Directives.

Authorities were asked if there were cases where impacts on water objectives have been identified, but exceptions (e.g. disproportionate costs) in Directives have been used to avoid going ‘beyond BAT’. Most respondents stated that they did not have such cases. However, two were noted:

- *Denmark*: an IPPC installation established over a 100 years ago was exempted from noise reduction obligations.
- *Netherlands*: a plant (see above) was examined to determine if alternative carbon sources could be used, but this was considered to be prohibitively expensive.

It was noted that Annex III of the WFD states that the economic analysis required for each river basin shall contain enough information in sufficient detail in order to

‘make judgements about the most cost-effective combination of measures in respect of water uses to be included in the programme of measures under Article 11 based on estimates of the potential costs of such measures’. In *Sweden* it was noted that the economic analysis has, until now, been undertaken at a large geographic scale. For the next POM it will need to be at a smaller river basin scale which will provide a clearer understanding of the cost-effectiveness of combinations of measures and the justification for going ‘beyond BAT’.

3.7 Pressures and measures in RBMPs

The framework for water managers is the river basin planning cycle of the WFD, within which other objectives (e.g. quality standards from other water Directives) are to be met alongside the WFD’s own objectives regarding water status. River basin planning includes an assessment of pressures (e.g. from IPPC installations) and how these affect objectives; programmes of measures to tackle the pressures; and a range of monitoring and reporting activities.

Water authorities were asked to provide examples, if any, of IPPC installations which might threaten the achievement of good status under the WFD. In a number of cases no cases were known. *Austria* stated that such an occurrence should not be allowed – more stringent obligations would be imposed.

For point sources the following examples were given:

- *Italy* (Lombardy): there are some examples including from the production and processing of metals, chemical industries and waste management plants. Note that some are not operating to BAT, while some of the problem installations are operating to BAT.
- *Netherlands*: (Rijkswaterstaat): there can be problems from discharges of nutrients and of thermal discharges.

For combined IPPC point sources the following examples were given:

- *Italy* (Lombardy): combined discharges can be a problem in the basin of the River Mella (Brescia city).
- *Netherlands* (Rijkswaterstaat): there can be problems from combined discharges of nutrients and of thermal discharges.

For combined IPPC and non-IPPC sources the following example was given:

- *Italy* (Lombardy): combined discharges can be a problem in the basin of the River Mella (Brescia city).
- *Netherlands* (Rijkswaterstaat): there are nutrient problems from a number of waste water treatment plants, only some of which are regulated under IPPC.

For diffuse sources, examples provided of agriculture and surface run-off were not related to IPPC installations. For hydromorphological pressures, examples provided were not related to IPPC installations.

3.8 Combined pressures

IPPC regulators were asked how they address the complexities of combined pressures from more than one IPPC installation (i.e. multiple sources) on the objectives of the water Directives.

Most respondents noted that combined pressures can be a problem to address, although a minority do not consider these to be a problem. *Ireland* is developing guidance on the issue and another addresses it through the EIA process. In Skåne, *Sweden* assessments of combined sources draws on the HELCOM Pollution Load Compilation and the Swedish Environmental Emissions Data (SMED). The box below gives details of these assessments.

In *Austria*, the water act applies a combined approach (introduced in 1990) for the reduction of emissions through application of BAT and introduction of water quality objectives. In the case of combined pressures and bad water quality of surface water, the water act allows the adoption of a programme of measures. The approach does vary according to the medium. For example, Austria has required all urban waste water treatment plants above 2,000 p.e. to apply more stringent treatment (irrespective of receiving water quality), but for air quality (if standards are not met) permits allow emissions if these contribute to less than 3% of the standard limits. An integrated approach to regulatory decisions is needed. For example, a management plan for one river in Austria has examined the need for waste water treatment for all relevant activities in a common analytical framework in order to meet water objectives.

In *Denmark* local authorities establish permit conditions and they are responsible for assessing the pressures on the receiving environment and determining which activities need to reduce discharges, etc., to address these pressures and so, for example, meet water objectives.

Waterschap Aa en Maas, the *Netherlands*, noted that IPPC installation permit conditions are determined individually, but that there is also consideration of overall water quality. Others noted that in such a case slightly stricter emission limit values can be set in the permit conditions ('beyond BAT'). The importance of the test of water quality objectives was stressed by some respondents. Such objectives (e.g. in RBMPs) help to set objectives for the installations. Rijkswaterstaat, the *Netherlands*, noted that new discharges (i.e. new installations) may be refused a permit in such cases. Rijkswaterstaat, the *Netherlands*, noted that there is less of a problem of multiple point sources than from a combination of problems with diffuse sources and, therefore, an interaction between IPPC and non-IPPC activities.

Rijkswaterstaat, the *Netherlands*, described how the water management plan maps all water problems and the sources of those problems. This includes IPPC discharges and the plan enables the identification of the most appropriate measures to be taken by each source, including measures for IPPC permits. This includes measures that might be needed to go beyond BAT if water quality problems persist.

Rijkswaterstaat, the *Netherlands*, stated that there is no fundamental difference in regulatory approach to IPPC and non-IPPC discharges. Waterschap Veluwe, the *Netherlands*, noted that many non-IPPC activities in their Member State were subject to general binding rules (GBRs) and, therefore, the flexibility for additional measures might more likely fall on the IPPC installations with bespoke permits. At the workshop concern was raised over the low level of ambition in implementing the WFD and that this level of ambition does not affect the operation of many processes subject to GBRs.

Slovakia stated that there was still debate in the Member State on the most appropriate approach where there are combined sources from both IPPC and non-IPPC activities. One view in *Slovakia* is that once an IPPC installation has implemented BAT, the focus for control should be on the non-IPPC activity. However, another view is to make the IPPC permit conditions even stricter. Consensus on the subject has not been reached.

In *Norway* there is no difference in regulation between IPPC and non-IPPC installations. In all cases there is an assessment of BAT including an assessment of the need to address local environmental conditions. This includes a strong tradition of taking account of the requirements of receiving waters.

Skåne, *Sweden* also stated that there was no difference between IPPC and non-IPPC installations in assessing impacts – all require a permit and the operators must examine their impacts on the objectives of the water Directives. *Austria* also stressed that there was no difference in the requirement of BAT between IPPC and non-IPPC installations.

In *Poland* there is the possibility for an operator of more than one installation to have a permit covering all of their installations. This is not only a mechanism to reduce administrative costs, but can also assist in integrating assessments for determining permit conditions.

Diffuse sources can be a particular problem in effective regulatory decisions. For example, in *Scotland* an assessment of a catchment with industry, urban areas and agriculture has nutrient problems. Measures have been imposed on industry and action taken for urban areas. However, research has shown that storm events are responsible for 87% of the nutrient loads and this is from agricultural land.

It was also noted that many small sources can create significant problems. For example, in *Ireland* some rural areas have large clusters of septic tanks which together pose risks to local water bodies.

The workshop discussed the issue of industrial estates which may contain both IPPC and non-IPPC activities. These can be major pressures on water quality. For example, a survey of 22 industrial estates in *Scotland* found that 21 caused water quality to be degraded. Measures focusing only on IPPC installations may not, in such cases, be the most optimal solution to addressing pressures on water bodies. For example, controls for surface run-off at the boundary of the IPPC installation only control pollutants from that installation, whereas similar controls at the boundary of the industrial estate would meet the same objective while also capturing run-off from other activities. Some regulatory regimes may be able to address this more readily than others. It was noted that use of GBRs within such a framework may be useful.

Assessing combined pollutant loads from point and diffuse sources in Sweden

SMED and HELCOM-data for small waterbodies/rivers is used to estimate the load from point sources as well as non-point pollution. HELCOM regularly produces a Pollution Load Compilation which assesses the data collected by the Contracting Parties on total waterborne loads of nutrients and some hazardous substances to the Baltic Sea. The next compilation, PLC-5, will be based on 2006 data and be published in a consistent and easily readable form for scientists, administrators and the general public. Also a popular version summarizing the air and water borne loads to the Baltic Sea shall be produced based on the results of the project combined with the airborne pollution data. This main objective of the PLC-5 report is to:

- quantify and describe the waterborne discharges from point sources and losses from non-point pollution sources as well as the quantified natural background losses into inland surface waters (source oriented approach) within the catchment area of the Baltic Sea;
- quantify and describe the loads (from rivers, unmonitored and coastal areas as well as point sources) discharging directly to the Baltic Sea (load oriented approach);
- evaluate changes in the pollution load since 1994;
- explain to which extent changes are caused by human activities or natural variations; and
- provide an overall evaluation of the significance of various water protection measures applied in the Baltic Sea catchment area to reduce the pollution load from land-based sources.

The Swedish Environmental Emissions Data (SMED) is a collaborative consortium involving the four organisations: IVL Swedish Environmental Research Institute, Statistics Sweden, Swedish University of Agricultural Sciences and Swedish Meteorological and Hydrological Institute. It was formed in 2001 with the primary aim to gather and develop Swedish competence within emission statistics related to the national abatement efforts within the areas emissions to air and water, waste/waste management, and hazardous substances/toxic chemicals. The goal of the collaborative work within SMED is to develop and operate national emission

databases, and to offer various services related to these. The client base is considered to be both regional and national authorities, as well as air- and water management districts and private companies. Consultancy services will also be offered internationally.

One important task for SMED is to assure the long-term provision of information and data required by international reporting obligations, conventions, Directives etc., such as the UNFCCC, HELCOM/PARCOM, Eurostat, PRTR. SMED was awarded a nine-year contract (2006-2014) for the Swedish Environmental Protection Agency to deliver all required data and associated information for Sweden's international reporting obligations concerning emissions to air and water, waste and hazardous substances.

3.9 Setting objectives for IPPC installations in River Basin Management Plans (RBMPs)

RBMPs are required to contain programmes of measures (POM) which set out the actions and timetables to address the pressures that have been identified which negatively affect the attainment of the objectives of the WFD for individual water bodies. If IPPC installations contribute to such pressures, then a POM could be expected to include measures specific to such installations.

Respondents from water authorities were asked whether specific measures had been identified in POMs for IPPC installations. Three responded that no measures relating to IPPC installations were in their respective POMs, while two reported that the POMs had simple statements to the effect that IPPC or BAT should be implemented, which is no more than the IPPC Directive itself requires. *Netherlands* (Rijkswaterstaat) reported that specific obligations on IPPC installations were included in the POM, including:

- For discharges of metals: to model discharges against ambient concentrations for tidal and marine discharges.
- To require additional reduction of loading of nutrients from waste water treatment plants.
- More generally to examine different sources of priority substances.

None of the respondents indicated that the interaction between IPPC installations and WFD objectives was addressed in an alternative way. Respondents also noted that none were aware of any differences between the approach between national and, where they exist, transboundary RBMPs.

Water authorities were also asked if any additional measures had been required of BAT compliant IPPC installations. Most respondents did not indicate any such requirements. *Italy* (Lombardy) noted that additional monitoring requirements for priority substances in water bodies may be required.

3.10 Groundwaters

Water authorities were asked if they knew of cases where discharges from IPPC installations threatened the objectives of the GWD. None reported that such cases occur, although Lombardy, *Italy*, reported that work on this is in progress. Therefore, none reported any specific limit values for IPPC discharges for groundwaters, although the Environment Agency, *Portugal*, noted that any such values occurring in BREFs would be communicated to water managers for inclusion in a permit.

3.11 River basin specific pollutants

Water authorities were asked if any environmental quality standards have been established at national or river basin level for specific pollutants because they are of concern from the activity of IPPC installations. Most replied that there were none. *Netherlands* (Rijkswaterstaat) noted that such standards are developed according to the 'WFD method' to national level. Note that although the Meuse, Ems and Scheldt rivers are transboundary, there is as yet no transboundary agreement on such standards. Skåne, *Sweden* stated that there are such quality standards, but not only because of concern from the activity of IPPC installations.

3.12 Mixing zones

The EQSD sets quality standards for a range of substances. However, in the proximity of individual discharges these standards may be exceeded within defined 'mixing zones'.

IPPC regulators were asked how they apply the concept of mixing zones. Responses included:

- *Austria*: according to ordinance, chemical water quality standards have to be met at most 1000 m after discharge into a water body.
- *Ireland*: national guidance is currently being prepared building on the EU guidance.
- *Denmark*: designation of mixing zones is the responsibility of the IPPC competent authority. Such designations shall not result in an affect on wider water quality, shall be restricted to the immediate vicinity of discharges and shall be adapted to the specific discharges to be consistent with permit decisions based on the application of BAT. The IPPC competent authority is required to inform the competent authority for the water Directives and make information public.
- *Netherlands*: if designated, mixing zones follow the national/EU guidance on the issue.
- *Romania*: mixing zones are designated by the Water Management Authority and follow the requirements of the Directive transposed into national law.

- *Slovakia*: mixing zones are determined by legal persons appointed by the Ministry of Environment and the administrators of important watercourses.

Water authorities were asked if there had been any analysis of the number and extent of mixing zones relating to IPPC installations. Most stated that such analysis had not been undertaken and Lombardy, *Italy*, stated that it was currently being undertaken. Rijkswaterstaat and Waterboard Brabantse Delta, the *Netherlands*, indicated that such analysis had been carried out. *Denmark* noted that all discharges have a mixing zone as almost no discharge could meet water quality objectives immediately at the point of discharge.

Water authorities were also asked how mixing zones are monitored. Most stated that they were not specifically monitored or that this was part of the monitoring obligations of IPPC operators. Rijkswaterstaat, the *Netherlands*, stated that there was an exception for thermal discharges which are specifically monitored (although thermal discharges are not a pollutant addressed by the EQS Directive, but are by the IPPC Directive and WFD). Rijkswaterstaat, the *Netherlands*, stressed the importance of general water quality monitoring so that problems in achieving wider objectives/targets could be traced back to mixing zones, thus resulting in future changes to permit conditions (additional measures).

Finally, water authorities were asked if they envisaged any problems with the operation of the mixing zone concept (noting that guidelines on this issue only became available in 2010). All reported that they did not see any problems, although one noted that work is still ongoing. Waterboard Brabantse Delta, the *Netherlands*, reported that their national approach had strongly influenced the EQS Directive, so that the practice was well established and another noted that the monitoring and modelling foundations implementing the concept were well established and available for water managers, IPPC regulators and operators.

3.13 Monitoring

IPPC regulators were asked whether any monitoring requirements in IPPC permits had been established specifically to contribute to the requirements of the water Directives. The response was mixed with a number stating that such requirements had not been established. Austria noted that monitoring for compliance checking and surveillance are established for impacts on groundwater and surface water bodies, e.g. all landfills need groundwater surveillance monitoring and, in case of direct discharge to surface water, also for surface water. Skåne, *Sweden*, for example, stated that this was the case, but only for new permits and not on a large scale. Consideration is given to discharge requirements in some countries and the link may be more clear in *Portugal* where the water authority establishes the water permit with monitoring requirements, which are applied to the discharged effluents and to the receiving water bodies (groundwater and/or surface water) according to their characteristics. One specific example given was in *Denmark* where some

installations have been required to monitor the quality of eelgrass, i.e. a biological component of the water ecosystem.

IPPC regulators were also asked if water authorities had made requests or observations to them regarding monitoring of IPPC installations. In a number of cases no such requests have been made. Examples of requests that have been made include:

- *Austria*: in integrated permits technical experts from the water department participate in defining the permit conditions; in split permits the water department issues own permits. In both cases the water department is aware for discharge conditions. More specifically in the last changes of the landfill ordinance (Deponie Verordnung 2008), water managers requested groundwater monitoring for landfills, part of the purpose of which was to increase groundwater monitoring stations for checking groundwater quality status.
- *Denmark*: water authorities have occasionally made requests to IPPC permitting authorities with regard to specific discharges.
- *Netherlands*: Provinces, which are the competent authorities for both IPPC and ground water, unfortunately did not respond.
- *Portugal*: water permits are separate from the rest of IPPC permits and the water authority establishes its own monitoring requirements. Discharge data are available for each river basin authority.
- *Romania*: water authorities are consulted during permitting and can impose specific provisions, i.e. setting the frequency, etc., of monitoring. This makes the results more useful to water authorities. Note that water authorities perform also their own monitoring checks. Indeed, penalties are (in a large majority of cases) not applied following the results of self-monitoring, but only after additional or parallel monitoring by the EPA or water authorities".
- *Slovakia*: the Slovak Water Management Enterprise undertakes analysis of water bodies and, following these results, may request amendments to permits.
- *Slovenia*: although monitoring requirements can be set out in permits, an inspector can also require additional control monitoring to be undertaken.
- *Skåne, Sweden*: the county administrative boards need to ensure that operators implement the necessary self-monitoring and control programmes needed to enable an assessment of the impact of activities on the ecological, chemical and quantitative status of water bodies.

IPPC regulators were also asked if monitoring data from IPPC installations are made available to water managers. Most IPPC regulators stated that such data are made available, often online or collated and provided on a periodic basis. In the *Netherlands* (Rijkswaterstaat), for example, a full inventory of processes relevant to the WFD has been determined. The WFD requirements were checked against pre-existing monitoring (which was largely sufficient), with changes made as needed to the monitoring obligations. Such data collected by the IPPC regulator are all available online. In *Slovakia* the operator is obliged not only to send monitoring data to the

IPPC competent authority but also, in the case of water discharges, to the water authority. In Skåne, *Sweden* the information is available through the Water Information System Sweden (see section 3.2).

It was noted at the workshop that monitoring from some IPPC installations can be valuable given the location of general water body monitoring. For example, headwaters may be less frequently monitored by water authorities than waters further downstream. However, in *Scotland*, for example, IPPC poultry units may be found in headwater catchments, so monitoring by these installations can be valuable. In Lombardy, *Italy*, there is a number of waste water treatment plants with metal discharges from IPPC and non-IPPC installations. These pose a significant pressure so that GES may not be achieved until 2027. A number of these are located on small rivers and general water monitoring is not focused on these types of waters. Therefore, additional monitoring by installations can be a useful addition.

It was also emphasised that groundwaters need to be included in the overall assessment approach – there is connectivity between groundwater, surface water and some important installations. For example, in *Ireland* the base flow for a number of waste water treatment plants can be 70% from groundwater.

The requirement for use of accredited laboratories for monitoring for IPPC operators varies. For example, use of accredited laboratories is compulsory in *Slovakia*, but not in *Romania*.

Water managers were asked whether there were any plans to examine the pressures on water objectives from IPPC installations. Most stated that there were not. Algarve River Basin, *Portugal*, stated that such monitoring was part of the IPPC permit conditions and that general monitoring under the WFD would address any issues. Waterboard Brabantse Delta, the *Netherlands*, stated that extra monitoring and analysis is being undertaken to examine the pressures arising from a number of small discharges, although many are not IPPC installations. There was a similar response from Lombardy, *Italy*, which stated that there was an active analysis of the results of IPPC monitoring to examine the pressures on water bodies. Skåne, *Sweden* stated that there is no plan in the regional environmental monitoring to monitor the impacts of single IPPC installations. Screening of priority substances is undertaken at a national level but on a limited scale.

Water authorities were asked if monitoring undertaken by IPPC installations was useful in meeting the monitoring obligations of the water Directives. Some stated that such monitoring was 'not useful'. However, others stressed the importance of a good database of discharges (substances, load, concentrations, location, etc.) to help with water monitoring requirements. Thus monitoring undertaken by IPPC installations is useful. In *Ireland* water managers do perceive the usefulness of IPPC monitoring data, but these data have not been readily available. Therefore, it is intended to ensure that such data are available online so that the relevant authorities can utilise the data. Waterboard Brabantse Delta, the *Netherlands*, noted that the data are very useful at the scale of the 'sub-river basin', but not of sufficient

detail for individual water bodies. In the Netherlands it was noted that the 27 water authorities are responsible for their own monitoring issues and there is an argument to bring these data together into a single database.

In Lombardy, *Italy*, IPPC monitoring data are available online. However, currently only the environment agency can access the data and in future it is intended to give access to basin authorities. Similarly, in *Poland* the IPPC database is not available for water managers. Environment Agency, *Portugal*, noted that if further monitoring could be of use to water authorities, changes could be requested to permit conditions. Currently, a large information system is being developed for all water users and this will include information concerning IPPC discharges. In *Slovakia* it was noted that the Hydromet collects additional data from IPPC installations and in *Slovenia* the same agency is responsible for collecting data on discharge monitoring and wider water monitoring. The workshop concluded, therefore, that it is important for data that are available to be shared between authorities.

Skåne, *Sweden* stated that currently the requirements of self-monitoring and control programmes do not meet the requirements in the water Directives, but this should change for new and revised permits, when it is justified. Previously, there has been a lack of standardized methods and threshold values for priority substances and specific pollutants in Sweden, but, through new knowledge, demands can be made that more priority substances and more specific pollutants shall be monitored. These results will be used in the classification of chemical status. Measuring biological parameters in installation monitoring would increase the knowledge of the ecological status and thus facilitate the characterization.

Water authorities were asked if they are planning or undertaking monitoring specifically to examine the impact of specific IPPC installations on water status. Most stated that they were not planning such monitoring or that current regular quality monitoring is sufficient. Indeed, *Denmark* noted that it was not legally possible to require operators to undertake monitoring outside of the scope of the site of an installation. Examples of planned monitoring are:

- *Italy* (Lombardy): improved monitoring is in progress on the Lambro-Seveso-Olona Basin (Milan) with additional analysis of discharges and modelling of results, with links to wider WFD monitoring. Initially this has focused on chemical parameters, but this will expand to include biological and hydromorphological parameters to give a full 'ecological/biological potential' index.
- *Netherlands* (Waterboard Brabantse Delta): monitoring of smaller point sources could be improved, in particular there is no upstream monitoring of such sources. This would relate to chemical and biological parameters.

For added value for water managers it was suggested at the workshop that it would be useful to get installations to monitor upstream and downstream of discharges (already a monitoring requirement for landfills under the Landfill Directive). This would assist in determining loads and other impacts as well as providing additional

background monitoring for water managers, who general would like to understand the full inputs and outputs of the installation. Such a practice is already used in some countries, such as in *Portugal, Ireland* and *Scotland*. In Norway few installations undertake ambient monitoring (about 20 across the country), although a number do perform on-off surveys, with an emphasis on biological monitoring.

The workshop also considered, therefore, that further consideration of the interaction between discharge monitoring and wider ambient monitoring ought to be addressed in any future revision of the BREF on monitoring as this is far from clear in the current BREF.

The workshop noted that there needs to be care in proposing extensive monitoring. Monitoring can be costly and operators may not always appreciate the value of this spending. Thus it needs to be clear why specific monitoring is undertaken and who can have access to/use the data. Indeed, wider access to monitoring data (e.g. between IPPC and water authorities) may assist in justifying the expected level of monitoring obligations.

3.14 Inspection and compliance assessment

Inspection and enforcement are important in helping to ensure installations comply with their permit conditions. Inspection activity can also involve a check on the interaction between the installation and the environment.

IPPC regulators were asked whether inspection activities were concerned only with assessing compliance with permit conditions or whether they also examined the impact of installations on the water environment. Many respondents stated that inspections were focused on ensuring compliance with permit conditions and not wider environmental impacts. The latter is to be addressed in permit determinations. However, *Romania* stated that inspections do examine 'all impacts' of the installation, in particular drawing on the monitoring results, including specific water monitoring. Environment Agency, *Portugal*, stated that impacts on water would not normally be examined during an inspection, except in the case of complaints. *Slovakia* stated that inspections only focused on compliance assessment, with the exception of inspections for landfill sites (i.e. one particular category of IPPC installation). Skåne, *Sweden* emphasised that both formal compliance and the impacts of installations on the water environment were examined during inspection. *Austria* also indicated that inspections address both elements.

Water authorities were asked if they had any concerns that water objectives could be threatened by non-compliant IPPC installations and, if so, if there is communication with the IPPC regulator on the issue. Most stated that they had no such concerns (with the occasional exception of accidental releases). Algarve River Basin, *Portugal* stated that if there was a concern it would discuss the issue with the IPPC regulator. Environment Agency, *Portugal* did note that non-compliance can be a problem and, in such cases, a working group with the interested parties is formed to solve the problem. Skåne, *Sweden* also stated that it had concerns.

IPPC regulators were also asked about their interaction with water authorities to discuss the performance of installations. Most stressed that this was the subject for discussion at permit determination rather than compliance assessment, although one noted that it had little contact at any time. However, *Denmark* stated that there is a formal agreement between the relevant authorities on the issue and that there is a requirement for formal meetings at which each authority is required to answer questions put to it by the other authority. The use of common databases for linking water management and compliance assessment results was also noted as being a valuable source of interaction. The inspection working groups and common information platform were established in the late 1980s and this still works well today. *Romania*: Joint inspections are undertaken (once per year) with staff from the IPPC regulator and the EPA and the water administration (if there is accidental pollution or a complaint). This not only streamlines inspection for the operator, but if the inspection concerns accidental releases, a joint press release can be produced by the respective authorities. *Skåne, Sweden*: noted that the IPPC and water authorities are located in 'the same place', thus facilitating ongoing dialogue on issues of mutual interest. It was also suggested that improved transparency on the substances used in IPPC installations and what effect they have on aquatic environment would be important as it could lead to better understanding by water managers of the regulatory tools available to IPPC regulations. In *Austria* regulators for part of IPPC regulation and regulation of water Directives belong to the same Ministry and co-ordination through meetings, reviews, etc., is undertaken.

The situation in some countries is also changing. For example, in the *Netherlands* on a national level there is currently a process of combining water inspection and environmental inspection. To date there has been combined inspection between the two inspectorates, but also concerns over the ability of different inspectorates to contribute towards wider inspection objectives. It is also important to note that while change may deliver benefits, these are not necessarily maintained over time. For example, in Lombardy, *Italy*, in 2003-4 experts regulating issues for air, water and soil were brought together. This improved working relationships for a number of years. However, relationships today are not as good as previously as the experts have settled into their respective roles. A similar trend has also been observed in *Slovakia*.

At the workshop it was noted that, in a number of countries, when companies are asked about inspection activity, they often respond that they want more inspection by better qualified inspectors, i.e. demonstrating the value of constructive interaction between authorities and operators.

3.15 Permit review

IPPC regulators were asked if there are mechanisms in place or planned to review permit conditions to take account of the objectives of the water Directives. Some responded that there were not, or referred to the statutory permit review period. *Austria* has a set timetable for review of permits (at least every ten years and

whenever the law establishes a change to BAT) and in the review process WFD objectives need to be considered. *Ireland* is currently undertaking a review of permit conditions with regard to water objectives. In the *Netherlands* (Rijkswaterstaat) consideration of water objectives is undertaken when permits are reviewed according to the set timetable. This includes an assessment of water quality objectives against discharges, which could result in new requirements to meet obligations arising from the WFD, etc. *Skåne, Sweden* stated that the county administrative boards have to review, and if necessary update, existing licensed operations, under the Environmental Code, which may have an impact on the aquatic environment, especially in areas of water bodies not achieving, or at risk of not achieving, good ecological status or good chemical status.

IPPC regulators were also asked if any IPPC permit conditions had been updated in the light of the objectives of the water Directives, or only within the usual permit review process. Most stated that there were no such cases. *Ireland* highlighted that some discharge limits and conditions for groundwater protection had been updated. In *Slovakia* permits have to be reviewed every four years and changes are to take account of objectives of the water Directives, e.g. due to ecotoxicological effects. *Skåne, Sweden* highlighted that a project is in place to identify permit conditions required to be updated in the light of the objectives established from implementation of the water Directives.

3.16 Improving the ability of IPPC regulators to address the obligations of the water Directives

IPPC regulators were asked what is being, or could be, done to better enable the IPPC permitting authority to address the objectives arising from the implementation of the water Directives. Responses included:

- *Austria*: information on transboundary water quality should be made more easily accessible. There might also be possibilities for improvement in the accessibility to data on surface and groundwater quality held by the water manager and on existing IPPC permits, although a lot of electronic tools already exist.
- *Denmark*: obligations from the water Directives should be included in the existing quality assurance system (documents) that regulators should take account of when issuing permits.
- *Ireland*: guidance documents are being prepared. However, it is also important to operators to be made more aware of the potential impacts of their installations.
- *Netherlands*: Rijkswaterstaat: it is important to ensure that BAT is tracked and applied. Waterschap Veluwe: it would improve if the Water Boards were again given permitting functions for IPPC installations.
- *Romania*: there should be better collaboration between the permitting authority, inspection authority and water authority.

- *Slovakia*: it would be helpful to establish an official platform at national level to bring the relevant authorities together and to organise information exchange, training, conferences and workshops.
- *Skåne, Sweden*: better understanding via education - the tools (www.viss.lansstyrelsen.se) are in place.

3.17 Co-ordination between IPPC regulators and water authorities

Both IPPC regulators and water authorities were asked about the systems in place to ensure co-ordination between IPPC regulators and water authorities or how these could be improved. *Denmark* noted that there is currently consideration for a project to identify and clarify which organisations are exactly responsible for which tasks, which would clarify roles of IPPC and water authorities and the interaction between them.

Some respondents stressed that the same authority is responsible both for IPPC permitting and inspection and water management, so that the problem of inter-institutional interaction does not arise. However, it was commented at the workshop that even if all of the relevant functions are contained within the same organisation, this does not necessarily mean good co-ordination between those functions. It is simply a different institutional context within which co-ordination is needed.

Waterschap Veluwe, the Netherlands, noted that the water authority had lost its role in permitting and regaining this would allow for more rapid response to problems. Where the functions are separated, consultation forums or working groups provided the basis for information exchange. *Environment Agency, Portugal*, noted that the co-ordination in the Member State would improve if its Information System for Management of Water Resources Use Permits was linked with the information system of the IPPC authority. In Portugal the water authority can also advise on what is necessary in an IPPC application form to address water issues and propose simplifications if needed. This is because there are concerns about the complexity of application forms. Operators can apply for IPPC and water permits together, or could initially obtain the water permit. In *Romania* the EPA organises a technical committee to discuss an installation, which includes the relevant authorities and the operator. However, subsequently authorities can discuss the installation without the present of the operator. In *Slovakia* in the permitting process there is an oral hearing and authorities including the water authority can participate. If the water authority cannot participate, the IPPC regulator may contact the authority for its opinion.

In *Austria* a different model is followed in permitting within a 'concentrated procedure'. Here the IPPC permit is integrated with the water discharge permit. Competent authorities seek advice from technical experts (IPPC, water, etc.). Thus the process does not involve direct interaction between IPPC and water authorities, but both authorities seeking advice from technical experts, where the integration occurs. The *Netherlands*, for permitting, has a 'front office', whereby applicants seeking permits submit an application (covering wider issues than environmental) –

this avoids different applications to different authorities and is a better regulation/simplification initiative of the Netherlands. The respective authorities can then address the application. The regions also support a helpdesk function for water and environmental authorities, which can also be used by the public.

In *Norway*, IPPC and water management are within the same authority. Thus co-ordination between the functions is an issue of co-ordination between colleagues. However, at permit hearings wider water issues can still arise that have not been directly addressed in permit applications. IPPC staff understand that it is important to think about what information is important for water managers and, therefore, it may be necessary to re-examine the format/checklist for IPPC permit applications.

IPPC regulators were asked if they co-operate in the development and implementation of RBMPs. A range of responses included:

- *Austria*: formal co-operation has been established between IPPC and water managers by setting up technical working groups. Indeed, the inspectorate for IPPC and water issues is one authority. Technical experts on water quality, on hydromorphology and on waste water treatment facilities participate in permit procedures and their reviews, if the facility might have negative effect on water quality.
- *Denmark*: there is no formal input but IPPC regulators can contribute during the RBMP consultation process.
- *Ireland*: interaction is informal, with all pertinent IPPC discharge information being available for water managers on a website.
- *Netherlands*: there is formal interaction, with formal processes (required by law and supported by an IT system to facilitate interaction) and regular informal contact. For example, Rijkswaterstaat has analysed all discharges for their impact on water quality and any additional measures are in the RBMP. The RBMP planning process is formalised with the involvement of relevant authorities including IPPC regulators.
- *Portugal*: There is both formal and informal co-operation, such as the provision of information on IPPC monitoring to water managers.
- *Romania*: Each river basin has a committee of 15 people, one of whom represents the IPPC regulator – the Environmental Protection Agency. There is a formal process of co-operation between the authorities. The Committee, for example, reviews water quality and pollution reduction plans, so linking objectives to IPPC provisions.
- *Slovakia*: IPPC regulators can contribute during the RBMP consultation process.
- *Skåne, Sweden*: there is formal and informal interaction between the authorities for IPPC permitting.

IPPC regulators were asked what systems have been established, or could be improved, to aid co-ordination between the IPPC regulators and water authorities. Most regulators referred to responses given above (3.14). In the *Netherlands* (Rijkswaterstaat) it was suggested that there should be a written agreement

between the authorities setting out mechanisms of co-operation, e.g. obliging participation in meetings/discussions. Currently assessments of impacts, etc., by the authorities are largely independent, so a common integrated assessment framework/methodology would be a benefit. In *Portugal* a single informatics tool is under development for the management of water resources use permits which would be linked to the IPPC regulator specific software, not only to bring together information from different authorities, but also to avoid duplication by ensuring that the operator will only need to use one of system.

Co-ordination between institutions can have challenges. In Lombardy, *Italy*, different authorities are involved in permitting. The law requires these to co-operate in the permitting process (including for Environmental Impact Assessment). Usually this involves a meeting to discuss issues and problems relating to the installation. ELVs are established in law for water permits and, for IPPC installations, additional action may be needed. There is the potential for a large number of meetings, so IPPC permitting staff seek to discuss issues with water authorities at an early stage and there are good relations with colleagues. This will also ensure that the legal obligation for the time to issue a permit can be met.

4. CONCLUSIONS AND RECOMMENDATIONS

The responses received from regulators in response to the questionnaire and the discussions at the project workshop have been useful in providing an overview of the issues and concerns in a number of Member States. They present differing views and practices between different IPPC regulators and different water authorities.

The most relevant conclusions arising from the project are:

- It is important for IPPC operators and regulators to have accurate information on the objectives of the water Directives in order to make legally robust operational and regulatory decisions.
- IPPC permit conditions need to ensure installations operate so as not to threaten the objectives of the water Directives which may require going 'beyond' BAT.
- There is significant complexity with multiple sources of pollutants to water (IPPC and/or non-IPPC). Although there is good practice in this area, it remains a regulatory challenge for industrial regulators and water authorities. They need accurately to assess the relative importance of the different sources regarding pressures of concern.
- BREFs have provided some assistance to regulators in addressing water issues, but they do not provide sufficient guidance to help in addressing water objectives derived from EU law.
- Guidance under the CIS has addressed some interactions with IPPC/IED (e.g. for mixing zones), but further guidance (or elaboration of existing guidance) is needed on the regulatory obligations and regulatory opportunities that arise from the interaction with IPPC/IED.

- There are extensive monitoring requirements for all of the Directives addressed in this project and IPPC and water authorities have used data from the different regulatory regimes. However, much could be done to improve the utility of data between regulatory regimes, including in some cases simply making such data more readily available. A single monitoring system is probably impractical. However, data derived from different monitoring requirements should either be combined into a single data base or the different data bases be linked in easily interoperable ways.
- Many IPPC permits were issued before the objectives of the water Directives were finalised. There is, therefore, an important role for inspectors (and water regulators, probably together with IPPC inspectors) to consider the impacts of installations on local water bodies (as is required by the Industrial Emissions Directive) and for the use of permit reviews to revise permit conditions if necessary.
- The institutional relationships between IPPC and water authorities vary enormously between Member States. However, whether staff are located in very different organisations or in the same organisation, it is important to put procedures in place to facilitate ways of working together (formal and/or informal) to ensure that the right information is shared, that information exchange is timely and that management decisions are, therefore, are more robust. Coordination and cooperation are key factors for success.

The project, therefore, makes the following recommendations to the European Commission, the BREF process, water directors, IMPEL and to national authorities responsible for implementation of the IPPC Directive and water Directives.

4.1 Recommendations to the European Commission

1. In setting objectives in EU law for substances, it is important that these are defined in a sensible way. For example, limits in law based on 'limits of detection' are not good law as these change due to changes in technology so that costly decisions may needed to be changed.
2. In developing guidance for inspection under the Industrial Emissions Directive the Commission should include consideration of how inspectors should meet the requirement to assess the impact of installations on the environment. Good practice examples of where this is already undertaken are in Romania and Sweden (section 3.14).
3. The European Commission should develop guidance on key issues and processes for co-operation between water authorities and competent authorities for IPPC/IED, drawing on best practice in the Member States.

4.2 Recommendations regarding BREFs

4. It is recommended that future BAT conclusions should, where relevant, include a section on interaction with water objectives. This is important for both competent authorities and operators.

5. It is also recommended that the cross-media BREF should include a wider examination of the interaction with water objectives arising from the water Directives.
6. It is recommended that consideration should be given, for specific relevant BREFs, on the role of sustainable urban drainage systems (SUDS) within the definition of BAT for different types of installation.
7. In the identification of BAT AELs, consideration should be given to the objectives of the WFD with regard to the reduction of emissions of priority substances and to cease or phase out discharges, emissions and losses of priority hazardous substances and how regulation of IPPC/IED installations contributes to this.
8. Further consideration of the interaction between discharge monitoring and wider ambient monitoring ought to be addressed in any future revision of the BREF on monitoring. A good practice example is the development of novel discharge and ambient monitoring and modelling in Lombardy, Italy (section 3.13).

4.3 Recommendations to the water directors

9. In developing guidance for implementation of the WFD and other Directives, the water directors should ensure greater consideration is given to relevant interactions with the role of IPPC regulation, including on the justification to go 'beyond BAT' where EU environmental quality standards are at risk. Good practice examples are Denmark and the Netherlands (section 3.6)
10. Further consideration should be given to developing guidance addressing the diffusion of pollutants within mixing zones and the effect of different flow regimes on pollutant concentrations compared to mixing zone designations and how this relates to compliance with the EQSD.

4.4 Recommendations to IMPEL

11. In order to assist in setting appropriate permit conditions under IPPC/IED, IMPEL should examine best practice in the assessment of impacts of installations on the surrounding environment, including on multiple sources. A good practice example is the approach to pressures from multiple IPPC sources in Austria (section 3.8).
12. IMPEL should examine best practices in the regulation of industrial estates in order to optimise both regulatory decisions for businesses and environmental outcomes.
13. IMPEL should examine best practices in the Member States on measures to control discharges from non-IPPC installations and how such measures relate to IPPC regulatory approaches. A good practice example is the assessment of

sources of pollution from IPPC and non-IPPC sources in an individual catchment in Sweden (section 3.6).

14. IMPEL should examine best practices in the Member States and develop tools regarding the role of inspectors in assessing environmental impacts of installations during inspections as required by the IED.

4.5 Recommendations to IMPEL members and other country-level authorities

15. Member States should consider how the obligations in different aspects of environment law (in this case industrial and water law) can be better integrated. This could be done through environmental codes (bringing environmental law together in a consolidated instrument), better cross-referencing between separate laws, etc. Improved integration aids the certainty of decision making by competent authorities and those affected by regulatory decisions as it is clear that all legal obligations are met.
16. Member States should give further consideration to the practical and legal implications of the application of the 'combined approach' as required by both the IPPC Directive and the WFD. This approach of considering emission limit values and environmental quality objectives would encourage further thinking on the interaction between IPPC/IED and the water Directives.
17. A 'holistic' approach by permitters, inspectors and water managers to working with operators should be adopted, addressing the objectives of all relevant EU Directives together. This not only ensures legal compliance, but also reduces the number of regulatory visits and burdens on business.
18. It is recommended *that* permitting and/or inspection authorities undertake campaigns working with industry to solve problems for individual operators as well as for groups of industrial activities (e.g. industrial estates) within an open dialogue. This requires permitting/inspection staff to be proactive in their roles.
19. It is recommended that IPPC monitoring data are collated by IPPC authorities (or other relevant bodies) in an on-line format for ease of access. Furthermore, access to these data should be available to water authorities so that they are able to use the data in assessment of water body issues in a timely manner. A good practice example is the Netherlands (section 3.13).
20. IPPC permit conditions must be clear, especially with regard to monitoring, i.e. what, when, where and how to monitor. This makes it much easier for the inspector and the operator to compare results to permit conditions. A good practice example is Denmark (section 3.13).
21. There should be clear rules on determining compliance that are communicated to operators, i.e. what is the process for detecting non-compliance. This makes permits enforceable. Such rules should be discussed

between permitting and inspection authorities to ensure they are enforceable.

22. In determining BAT for installations, it is important to assess the critical points where accidents could result in impacts on waters and manage these where possible.
23. It is important that effective and efficient systems are established for data sharing between (and within) authorities responsible for IPPC/IED implementation and those for water management. Good practice examples from the Netherlands and Norway are found in section 3.16.

ANNEX I: PROJECT QUESTIONNAIRE

Linking the Implementation of the Water Framework
Directive to the implementation of the IPPC Directive

Final
Questionnaire
February 15, 2011

Please return responses to the questionnaire to your Impel coordinator, who has
send this Questionnaire to you.

Please return responses by **March 31**

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Introduction to the project

The IPPC Directive 2008/1/EC and Water Framework Directive 2000/60/EC are two of the most wide-reaching pieces of EU environmental law. They have presented many challenges to the Member States and continue to do so. These challenges have included interpretation of the provisions of the Directives and the enormous practicalities of implementation. IMPEL has, therefore, started the project *“Linking the implementation of the Water Framework Directive to the implementation of the IPPC Directive”* to provide recommendations for competent authorities to contribute to better implementation and enforcement of the WFD requirements and the IPPC Directive (as well as the revised Industrial Emission Directive), and to contribute to better performance of environmental inspections and permits in the Member States.

A first phase of the project has resulted in a report examining the linkages between the WFD and IPPC Directives and related Directives. The report focused on the following key questions: “how to ensure that current and future licensing and enforcement activities are both WFD and IPPC proof?” and “how can permits contribute to achieving both IPPC and WFD goals?”. It considers the interactions between Directives from the perspective of the IPPC regulatory cycle and from the perspective of the WFD river basin planning cycle. It provides separate analyses of interactions with the EQS Directive, Groundwater Directive, Urban Waste Water Treatment Directive, E-PRTR Regulation and REACH Regulation. It concludes with an examination of the challenges that the interactions pose to the competent authorities of the Member States and how these might be addressed.

A copy of the report is circulated with this questionnaire to provide background material to issues (see also Impel website [http://impel.eu/wp-content/uploads/2011/01/WFD-IPPC-final-report-phase-1-GA-101118-5 .pdf](http://impel.eu/wp-content/uploads/2011/01/WFD-IPPC-final-report-phase-1-GA-101118-5.pdf)).

The second phase of the project is to examine the interpretations, problems and best practices in the Member States regarding the interactions between the Directives. This is focused on the practical implementation processes of the IPPC regulatory cycles and the WFD river basin planning cycle. This task will be fulfilled through the collection of views and practices in the Member States via this Questionnaire. The results will be analysed and discussed at a workshop (halfway

June) prior to a final project report being produced. You may be invited for the workshop. The core team will select participants and pay for their travel ticket and hotel, based on the most interesting results in the Questionnaire, the regional spreading in Europe and the language used in the Questionnaire (English). The number of invited participants depends on the maximum of the amount available (we expect we can cover costs of some 15 participants).

In principle, the results will be dealt with anonymously. Best practices may be presented together with the name of the organisation, if not objected by the organisation.

The final report with recommendations (to the competent authorities and EC) will be made available to all member states and the European Commission.

We would prefer replies in English but we would also accept replies in your own language if this helps you to provide responses. We will only accept electronic replies and this should be submitted by 31 March 2011. If you have any questions in relation to the questionnaire please contact Andrew Farmer, AFarmer@ieep.eu. It is expected that this questionnaire will take a maximum of two hours to complete.

Introduction to the Questionnaire

The questionnaire begins by asking for some introductory information concerning the person(s) completing the questionnaire – their regulatory/management responsibilities (e.g. with regard to the IPPC Directive and Water Framework Directive) and geographical responsibilities.

The questionnaire is then divided into two sections. The first asks questions from the perspective of the IPPC regulator (permitting, inspection, etc.). The second section asks questions from the perspective of the water manager (e.g. responsible for river basin planning). **Please answer the questions that are relevant to you from your perspective.** If you are an IPPC permitting and/or inspection authority, please answer the first set of questions, or those relevant to your area of work. If you are a water manager, answer the second set. If you have responsibilities regarding both areas of environmental management, answer any or all of the questions that are relevant to you.

Please answer the questions as fully as you are able to so that other IMPEL members can understand the processes and practices in your country and the problems, opportunities and constraints that you face.

At the end you can add any further points that you think are important for the project.

Note: in the questionnaire, reference may be made to the Water Framework Directive (WFD) specifically. However, for ease of presentation, reference is often

made to objectives arising from the 'Water Directives'. In this context, the 'Water Directives' are the Water Framework Directive, Quality Standards Directive, Groundwater Directive and Urban Waste Water Treatment Directive.

THE QUESTIONNAIRE

Please answer the following questions:

Contextual information

1. Please give your name(s) and contact details and indicate your position	
2. Please give the name of your organisation	
3. What territory (country, region, river basin, etc.) does your organisation cover?	
4. Are you responsible for IPPC and/or water management and/or other issues? If other please specify.	
5. If you are an IPPC regulator, are you responsible for permitting, inspection/enforcement or both?	

Questions from the perspective of the competent authorities responsible for IPPC

Permit application

Operators applying for a permit need to consider the consequences of the operation of their installation on the environment. This may include impacts on water bodies, including impacts on the specific objectives arising from the implementation of the Water Directives.

- 1) Do operators have the necessary access to information to identify whether their installations have any consequences with regard to the objectives arising from the implementation of the Water Directives?
 - a) National level Yes/No
 - b) Transboundary Yes/No

- 2) If yes where/how do operators in your Member State access this information (e.g., webpages, guidance, legislation)?

Answer:

- 3) Do regulators require all operators to take into account the objectives of the Water Directives in new permit applications? Yes/No
If yes please give examples.

Answer:

Permit determination

Permitting authorities prescribe operating conditions in permits for installations based on the assessment of Best Available Techniques (BAT). The IPPC Directive requires such conditions also to take account of environmental objectives established in EU law (such as through the Water Directives).

- 4) Which BREFS do you as a regulator find useful in taking account of the objectives of the Water Framework Directive and its daughter directives, and which are not so useful? Insert links if informative.

Answer:

- 5) Has the regulator identified cases where BAT compliant installations may have negative impacts on new water objectives arising from the implementation of the Water Framework Directive and its daughter directives? If so, give examples?

Answer:

- 6) How does the regulator address the complexities of combined pressures from more than one IPPC installation (existing or planned) on the objectives of the Water Directives (e.g. multiple sources of the same pollutant)? If necessary feel free to describe how this would be addressed in principle by reference to other environmental issues (e.g. air quality).

Answer:

- 7) a) How does the regulator address the complexities of combined pressures from non-IPPC activities (existing or planned) on the objectives of the Water Directives (e.g. multiple sources of the same pollutant) when deciding on whether or not to issue an IPPC permit?

Answer:

- b) Are there cases where permits have been issued which allow discharges of a pollutant even when a water body is not in good status due to this pollutant?

Answer:

- c) What criteria or rule of thumb is used to allow such discharges?

Answer:

- d) Are steps then taken to ensure activities with more polluting discharges are addressed e.g., in discussion with water managers?

Answer:

- 8) Are there cases where permit conditions require installations to go “ beyond BAT” in order to meet:
- a) Objectives of the Water Directives. If so, what are the objectives causing this response? Please give examples.

Answer:

- b) Other environmental Directives (e.g. air, soil). Please give examples.

Answer:

- 9) If installations have been required to go ‘beyond BAT’ requirements:
- a) What measures have been required? Please give examples.

Answer:

- b) Have any additional e.g., compensation, measures been required (such as wetland provision, fish passes)? Please give examples.

Answer:

- 10) Have there been cases where regulatory impacts have been identified but exceptions in Directives are used, e.g. disproportionate costs, to avoid permit conditions to go beyond BAT? If so give examples.

Answer:

11) How does the regulator apply the concept of mixing zones arising from the Quality Standards Directive? Please explain.

Answer:

12) Have the potential international transboundary impacts of an installation on the objectives of the Water Directives been identified by the regulator in any case? If so, what action, if any, was taken?

Answer:

13) Do the Competent Authorities for the Water Directives and the IPPC regulators co-operate in the development and implementation of the river basin management plans? If yes are these informal/formal processes? Please describe.

Answer:

Monitoring

IPPC permits include monitoring obligations on operators. These may include a range of issues, usually including monitoring of emissions (at least to understand compliance with permit conditions). In some cases obligations may include monitoring of the local environment to examine possible impacts or to improve understanding of the impact of the installation.

14) Have monitoring obligations in permits been established specifically to contribute to the requirements of the Water Directives (emissions or ambient monitoring, etc.)? If so, give examples.

Answer:

15) Have the competent authorities for Water Directives made any requests or observations to IPPC permitting authorities with regard to the monitoring of IPPC installations? If yes, please describe.

Answer:

16) Are monitoring data from IPPC facilities made available to the water managers (other than EPRTR)? If yes, please describe how.

Answer:

Inspection / Enforcement

Inspection and enforcement are important in helping to ensure installations comply with their permit conditions. Inspection activity can also involve a check on the interaction between the installation and the environment.

- 17) Does implementation/ supervision activity only check compliance with the permit conditions or does it also examine impacts of the installations on the water environment (as will be required under the new Industrial Emissions Directive)?

Answer:

- 18) Do regulators for the IPPC and Water Directives exchange information or meet to discuss the performance of individual installations? If yes, please describe how this is done and give examples of the outcomes of such exchange.

Answer:

Permit review

IPPC permits are to be reviewed periodically and conditions altered, e.g. due to a changed understanding of BAT or to address new environmental objectives. The latter could arise from Water Directives adopted after IPPC permits were originally determined.

- 19) Are there mechanisms in place or planned to review permit conditions to take account of the objectives of the Water Directives, including their timetables for implementation? Are there any obstacles to this? Please describe.

Answer:

- 20) Have any IPPC permit conditions required updating in the light of objectives established from implementation of the Water Directives? If so, give examples.

Answer:

Concluding questions from the perspective of IPPC regulation

- 21) What is being done and what do you think could be done to make the IPPC permitting authority in your country/region better able to address objectives arising from implementation of the Water Directives?

Answer:

22) What is being done and what do you think could be done to make the IPPC inspection authority(ies) in your country/region better able to address objectives arising from implementation of the Water Directives?

Answer:

23) What systems have been established and what systems could be established or improved in your country/region to aid co-ordination between those authorities responsible for IPPC implementation and those authorities responsible for implementation of the Water Directives?

Answer:

Any other issues

24) Are there any other issues that you would like to raise with regard to the interactions between the IPPC Directive and the Water Directives?

Answer:

Questions from the perspective of the Water Manager

Pressures and measures in River Basin Management Plans

The framework for water managers is the river basin planning cycle of the Water Framework Directive (WFD), within which other objectives (e.g. quality standards from other Water Directives) are to be met alongside the WFD's own objectives regarding water status. River basin planning includes an assessment of pressures (e.g. from IPPC installations) and how these affect objectives; programmes of measures to tackle the pressures; and a range of monitoring and reporting activities.

25) In the assessment of pressures on water bodies IPPC installations may threaten the achievement of good water body status. This may occur in various contexts such as single IPPC point source, combined IPPC point sources, combined IPPC and non-IPPC pressures, diffuse IPPC pressures and IPPC hydromorphological pressures – please provide examples, if any, and what actions have been taken. Please also be clear if the threat arises from an IPPC installation(s) that is operating to BAT or that may not yet be operating to BAT.

Please answer from perspective of:

- a) single IPPC point source
- b) combined IPPC point sources
- c) combined IPPC and non-IPPC pressures
- d) diffuse IPPC pressures
- e) IPPC hydromorphological pressures

26) In the River Basin Management Plan(s) for which you have responsibility, how are measures concerning IPPC installations addressed? Please tick the [] in the following:

- a) [] No mention is made explicitly of IPPC installations
- b) [] A simple statement is made, such as 'implement IPPC' or 'implement BAT'.
- c) [] Specific measures relating to named IPPC installations are described.
Please describe.

Answer:

- d) This interaction is dealt in some other way in the plans? Please describe.

Answer:

- e) Is there a difference between national and transboundary plans? Please describe.

Answer:

27) Where BAT compliant IPPC installations have been identified as a threat to water objectives, were additional measures required of the installations? If yes, what? If no, why?

Answer:

28) Are there any analyses planned or ongoing to examine the pressures on the objectives of the Water Directives arising from the activity of IPPC installations? Please summarise.

Answer:

29) Are there pressures on the objectives of the Water Directives arising from IPPC installations in another Member State? If so, has this been raised with the relevant authorities of that Member State and what was the result?

Answer:

Groundwaters

The Groundwater Directive (GWD) establishes standards for specific substances and Member States are to establish threshold values for other substances as necessary. Action (e.g. prevent or limit discharges) should be taken to meet these objectives.

30) Have you identified IPPC installations where their activities may threaten the achievement of the standards or threshold values established under the GWD? If so, what has been the response to this?

Answer:

31) Have threshold values been established for individual substances specifically because they are of concern from the activity of IPPC installations?

Answer:

River Basin Specific Pollutants

32) Have environmental quality standards been established at national or river basin level for specific pollutants because they are of concern from the activity of IPPC installations?

Answer:

Mixing zones

The Quality Standards Directive sets quality standards for a range of substances. However, in the proximity of individual discharges these standards may be exceeded within defined 'mixing zones'.

33) Has there been any analysis yet of the number/extent of mixing zones arising from discharges from IPPC installations? How has this been taken account of in the river basin management plans?

Answer:

34) How is monitoring of the mixing zones organised? Are there gaps or constraints in working with the IPPC permitting authority in achieving water objectives and management of mixing zones?

Answer:

35) Do you envisage any difficulties from the operation of the mixing zone concept as set out in the Directive? Is there any national guidance on this concept? Insert links

Answer:

Monitoring

The WFD establishes monitoring obligations with regard to the general state of water bodies and to assess specific pressures. Other Water Directives also establish monitoring obligations, e.g. to ensure individual standards are not exceeded or to understand specific discharges, pollutant loads, etc.

36) Are the water regulators planning/ undertaking monitoring to examine the impacts of specific IPPC installations on the status of a water body? Please describe.

Answer:

37) Does this additional monitoring relate to chemical, ecological and/or hydromorphological parameters? Please elaborate.

Answer:

38) How useful is monitoring undertaken by IPPC installations in meeting the monitoring requirements of the Water Directives? Are there changes to installation monitoring that could make the results more useful?

Answer:

Compliance

Threats to water objectives can arise from activities being operated in an illegal, non-compliant way. Such 'unplanned' threats are also pressures that need to be addressed.

39) Are there concerns that poor compliance of IPPC installations may be a threat to water objectives? Is there communication with the IPPC regulator in this regard?

Answer:

Concluding questions from the perspective of the Water Manager

40) What is being done or what do you think could be done to allow the competent authority(ies) for the Water Directives to be better able to address the pressures arising from IPPC installations?

Answer:

41) What systems are in place or could be established/improved in your country/region to aid co-ordination between those authorities responsible for IPPC implementation and those authorities responsible for implementation of the Water Directives?

Answer:

Any other issues

42) Are there any other issues that you would like to raise with regard to the interactions between the IPPC Directive and the Water Directives?

Answer:

Thank you for completing the questionnaire!

ANNEX II: RESPONDENTS TO THE PROJECT QUESTIONNAIRE

Member State	Organisation	Responsibilities
Austria	Lower Austria, Environment Department	IPPC permit and inspection authority
Denmark	Danish Environmental Protection Agency	IPPC licensing and enforcement
Ireland	Environmental protection Agency	IPPC licensing
Italy	ARPA Lombardia - Environmental Protection Agency of Lombardia	Water
The Netherlands	Rijkswaterstaat	IPPC and water management
The Netherlands	Waterschap Aa en Maas	Association of Regional Water Authorities
The Netherlands	Waterboard of Frysland	Implementation of WFD and execution of measures
The Netherlands	Waterboard of Brabantse Delta	Water management, water quality management, implementing WFD
The Netherlands	Waterschap of Veluwe	IPPC wastewater issues
Portugal	Algarve River Basin District Administration	Water
Portugal	Agência Portuguesa do Ambiente	IPPC regulator and permitting
Romania	Ministry of Environment and Forests- National Environmental Guard- Timiș Regional Commissariat- Hunedoara County Commissariat	IPPC and other environmental problems
Slovakia	Regional Inspectorate of the Environment Banská Bystrica	IPPC
Sweden	Länsstyrelsen I Skåne län South Sweden	IPPC and water management

ANNEX III: PARTICIPANTS AT THE PROJECT WORKSHOP

Country	Participant	Organisation
Austria	Christoph Planitzer	Lower Austria, Environment Department
Denmark	Christian Henning	Ministry of Environment, Environmental Protection Agency, Biologist
Denmark	Jens Peter Mortensen	Danish Society for Nature Conservation Environmental Officer
Ireland	Gavin Clabby	Environmental Protection Agency
Ireland	Ray Earl	Dept. Environment, Heritage and Local Government, WFD Eastern River Basin District Project
Italy	Gianluca Cusano	ARPA Lombardia - Environmental Protection Agency of Lombardia
Italy	Valeria Marchesi	ARPA Lombardia - Environmental Protection Agency of Lombardia
The Netherlands	Arno van Breemen	Water Management Inspectorate
The Netherlands	Henri Emond	Rijkswaterstaat Oost Nederland
Norway	Kari Jorigson	Norwegian Pollution Control Authority
Norway	Siri Sorteberg	Norwegian Pollution Control Authority
Poland	Monika Kosinska	Ministry of the Environment Department of Environmental Instruments, senior specialist
Portugal	Anabelo Rebelo	Algarve River Basin District Administration
Portugal	Filipe Vitorino	Inspecção-Geral do Ambiente e do Ordenamento do Território
Romania	Costa Stanisav	Ministry of Environment and Forests, National Environmental Guard
Slovakia	Dominika Očenášová	Slovak Inspectorate of Environment
Slovenia	Jana Miklavčič	Ministry of Environmental & Spatial Planning, Inspectorate of RS for the Environment and Spatial Planning
United Kingdom	Brian D'Arcy	Self employed environmental consultant. Past: Sr. Diffuse Pollution Specialist, Scottish Environment Protection Agency.
United Kingdom	Andrew Farmer	Institute for European Environmental Policy

ANNEX IV: TERMS OF REFERENCE FOR PROJECT

No	Name of project
	<i>Linking the implementation of the Water Framework Directive to the implementation of the IPPC Directive, phase 2</i>

1. Scope

<p>1.1. Background</p>	<p>The IPPC Directive 2008/1/EC and Water Framework Directive 2000/60/EC are two of the most wide-reaching items of EU environmental law. They have presented many challenges to the Member States and continue to do so. These challenges have included interpretation of the provisions of the Directives and the enormous practicalities of implementation. Impel started a project named “<i>Linking the implementation of the Water Framework Directive to the implementation of the IPPC Directive</i>”. This study should provide recommendations for competent authorities to contribute to better implementation and enforcement of the WFD requirements and the (reviewed) IPPC directive, to contribute to better performance of environmental inspections and permits in the Member States.</p> <p>The project consists of two phases:</p> <ol style="list-style-type: none"> 1. A survey to examine the linkages. The objective of this first phase was to define the relationship (complementary and competition) between IPPC implementation and WFD implementation from the scope of permitting, enforcement and data collection (2010). 2. An inventory of problems and best practices in the member states, with regard to permitting, enforcement, data collection and data collection systems (2011) <p>Phase I was carried out by IMPEL in 2010 and provides an analysis of the interactions between the Directives. The report is focused on the following key questions: “how to ensure that current and future licensing and enforcement activities are both WFD and IPPC proof?” and “how can permits contribute to achieving both IPPC and WFD goals?”. The report examines some general issues concerning the interaction between the Directives. It considers the interactions from the perspective of the IPPC regulatory cycle and from the perspective of the WFD river basin planning cycle. It provides separate analyses of interactions with the EQS Directive, Urban Waste Water Treatment Directive, E-PRTR Regulation and REACH Regulation. The report examines issues of interaction between the Directives set out in the WFD CIS Guidance Documents and in the IPPC BREF Notes. The report concludes with an examination of the challenges that the interactions pose to the competent authorities of the Member</p>
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	<p>States and how these might be addressed.</p> <p>Phase 2 will focus on the inventory of problems and best practices in the member states, with regard to permitting, enforcement, river basin management, data collection and data collection systems. It will be performed by circulating a questionnaire to IMPEL members seeking views on the questions raised in this report and Member State practice and best practice in addressing interactions. The questionnaire was already prepared in phase I. Subsequently, the results will be discussed in a workshop with representatives of the member states.</p>
<p>1.2. Link to MAWP and IMPEL's role and scope</p>	<p>Strategic Goal II - Improving methodologies</p> <p>Strategic Goal III - Development of good practices Learning from each other and showing results of our work, in particular for the inspection and permitting processes within the scope of the RBMP.</p> <p>Strategic Goal V - Providing feedback to policy makers It will also assist in the aim to "continue the activity of providing feedback to the Commission or EU Institutions on better legislation issues, gathering information on experience of implementing EU legislation".</p> <p>Strategic Goal VI - Promotion of IMPEL and dissemination of its products. In this case by programming a specific "Water project".</p>
<p>1.3. Objective(s)</p>	<p>The objectives of phase 2 of the project are:</p> <ul style="list-style-type: none"> - An inventory of problems and best practices in the member states, with regard to permitting, enforcement, river basin management, data collection and data collection systems. - Provide recommendations for competent authorities to contribute to better implementation and enforcement of the WFD requirements and the (reviewed) IPPC directive, to contribute to better performance of environmental inspections and permits in the Member States.
<p>1.4. Definition</p>	<p>Identifying best practices through the use of a questionnaire and holding a workshop resulting in recommendation on the implementation of WFD and IPPC Directives.</p>

	<p>Phase 2 will focus on the inventory of problems and best practices in the member states, with regard to permitting, enforcement, river basin management, data collection and data collection systems. It will be performed by circulating a questionnaire to IMPEL members seeking views on the questions raised in this report and Member State practice and best practice in addressing interactions. The questionnaire was already prepared in phase I.</p>
<p>1.5. Product(s)</p>	<p>Phase 2 will be concluded by a Phase 2 Report containing:</p> <ul style="list-style-type: none"> • best practices from IMPEL reps. of Member States on environmental permitting and enforcement to comply with the requirements of the IPPC directive and the Water Framework Directive. • recommendations for competent authorities to meet the requirements of both the WFD and IPPC directives.

2. Structure of the project

<p>2.1. Participants</p>	<p>This project will be lead by the Netherlands (Water management Inspectorate) and Austria (Austria Lower Government).</p> <p>For the gathering of the information and the workshop a large group of participants is required. (about 35 participants from all IMPEL members, and EC, including core team members).</p> <p>Participants are permit writers and inspectors involved in regulating industrial emissions (eg. both water and environment from one member state can add value). They need to be familiar with WFD and/or IPPC requirements. Experts in the field of priority substances, emission control, monitoring, and data management are welcomed. Also water/environmental managers with a more broad and integral view. Preferably in the composition of the team the various river basins should be represented.</p>
<p>2.2. Project team</p>	<ul style="list-style-type: none"> - ?????? Netherlands (chair) - Christof PLANITZER, Austria (vice chair) - Connor Clenaghan. Ireland - Rune Brandt, Sweden - Filipe Vitorino, Portugal - Riccardo Quaggiato, Italy
<p>2.3. Manager Executor</p>	<p>The Netherlands Water Management Inspectorate and the Environment Department of Administration of Lower Austria Government.</p>
<p>2.4. Reporting arrangements</p>	<ul style="list-style-type: none"> - Progress reports to spring meetings of Cluster 1 and General Assembly - Draft final reports to autumn meetings of Cluster 1 and General Assembly
<p>2.5 Dissemination of results/main target groups</p>	<p>The reports will be put on the IMPEL website and disseminated to the authorities in the Member States.</p> <p>The report will be sent to the relevant international bodies in the field of water and environmental regulation.</p>

3. Resources required

<p>3.1 Project costs</p>	<ul style="list-style-type: none"> - Accommodation for the workshop participants (35 pax = 35 * 2 (nights) * 125) € 8750 - Travel costs: 35 * € 500 € 17500 - Additional costs for meeting rooms, lunches and associated facilities € 5000
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	<ul style="list-style-type: none"> - 2 Meetings core team á 6 pax = 6 * 2 * (500 + 125): € 7500 - Preparing, managing and reporting the meeting (consultant): € 1000 - Writing the final report of phase 2 (consultant) € 10000 <p style="text-align: right;"><i>Total estimated costs 2011:</i> €49750</p>
3.2. Fin. from Com.	All costs should to be covered by Life+.
3.3. Fin. from MS (and any other)	
3.4. Human from Com.	-

4. Quality review mechanisms

The quality of the final draft reports will be reviewed in Cluster 1. The draft reports will be reviewed by the core team.

5. Legal base

5.1. Directive/Regulation /Decision	<ul style="list-style-type: none"> - Directive 2008/1/EC (ex 96/61/EC of 24 September 1996) concerning integrated pollution prevention and control. - Proposal for a Directive of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control. - Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. - Directive on Priority Substances (Directive 2008/105/EC) of the European Parliament and the Council on environmental quality standards in the field of water policy. - Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment.
5.2. Article and description	<ul style="list-style-type: none"> - WFD Article 10 - IPPC Articles 10 and 18
5.3 Link to the 6th EAP	More effective implementation and enforcement of environmental legislation is one of the priorities of the 6th EAP. Well-designed approaches to reconsideration of permits will support this.

6. Project planning

6.1. Approval	<ul style="list-style-type: none"> - Draft TOR will be discussed in cluster 1 (Oslo, September 2010) - TOR submitted for approval in the general assembly,
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6.2. Fin. Contributions	-
6.3. Start	January 2011
6.4 Milestones	<ul style="list-style-type: none"> - Circulate questionnaire: January 2011. - Consultant collects answers to questionnaire, carries out analysis and draft Phase 2 Report, March 2011. - Core team meeting to prepare Workshop and discuss draft Phase 2 Report: April 2011. - Workshop, May 2011. - Core team meeting to discuss final draft Phase 2 Report: June 2011. - Discussion of final draft Phase 2 Report in IMPEL cluster I, September 2011. - Adoption of Phase 2 Report in IMPEL GA, October 2011.
6.5 Product	See under 6.4
6.6 Adoption	See under 6.4