

## **DESCRIPTION OF THE DATA-BLOCKS (REPORTING SHEETS)**

**(FINAL version 22/02/07<sup>1</sup>)**

The document was agreed on the 9<sup>th</sup> UWWTD-REP working group meeting on 20 December 2006.

The blocks 0-4 and 7 of the document are used for the IT reporting tool for data entry for Questionnaire-2007 – i.e. official data request on implementation of Directive 91/271/EEC.

Data blocks 5, 6 and 8 will be finalised by the end of the year 2007. However this draft version of parameters is also included into the IT-tool for testing purposes during the reporting exercise 2007. Member States are invited on voluntary basis to provide this information.

Document is available from WFD CIRCA at:

[http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework\\_directive/treatment\\_directive/00-uwwtd\\_questionnaire](http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive/treatment_directive/00-uwwtd_questionnaire)

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<sup>1</sup> Some editorial changes on 08/05/07 has been made to the final version of 22/02/07 of this document

**DISCLAIMER:**

The informal document represents the outcome of discussions with experts from Member States and reflects the results of sharing experiences in relation to the implementation of Urban Waste Water Treatment Directive (UWWTD) and reporting exercise in the Member States. The document forms the background for Questionnaire-2007 under UWWTD. It was compiled by the consultant working with the Commission services. However the document does not necessarily represent the views of the European Commission.

## Table of contents

Introduction .....	5
Data block 0: General information about the report and contact details.....	6
1. What .....	6
2. Why .....	6
3. How .....	6
Data block 1: Inventory of designated receiving areas and catchments .....	8
1. What .....	8
2. Why .....	8
3. How .....	8
4. Other explanations on reporting:.....	10
4.1 Designation of sensitive areas: Reporting concerning designation criteria c) .....	10
4.2 Reduction rate of the total load: Calculation methods .....	11
Data block 2: Master data of agglomerations.....	12
1. What .....	12
2. Why .....	12
3. How .....	12
4. Other explanations on reporting .....	14
4.1 Creation of unique European codes for objects .....	14
4.2 Calculation scheme for the generated load of an agglomeration .....	15
4.3 Reporting of big cities / big discharger .....	17
4.4 Reporting the ID of region (NUTS) .....	17
4.5 Reporting in case one agglomeration is served by an UWWTP, which is situated in another MS .....	17
4.6 Specific cases: Reporting in case treated waste water is discharged on land or in the underground .....	18
4.7 Some other explanations: .....	18
Data block 3: Collecting systems: basic questions.....	19
1. What .....	19
2. Why .....	19
3. How .....	19
4. Other explanations on reporting .....	21
4.1 How to report the % generated load.....	21
Data block 4: treatment level and performance .....	22
1. What .....	22
2. Why .....	22
3. How .....	22
4. Explanations .....	23
Data block 5: Proposed data for future reporting: Details on collecting systems .....	25
1. What .....	25

2. Why .....	25
3. How .....	26
3.1 Management of leaks: .....	26
3.2 Management of storm water overflows:.....	26
3.1 IAS: .....	26
Data block 6: Proposed data for future reporting: loads treated and discharged for each UWWTP, SoE, information to the public, statistics .....	28
1. What .....	28
2. Why .....	28
3. How .....	29
Data block 7: Aggregated information on MS level: Sludge and treated waste water re-use.	30
1. What .....	30
2. Why .....	30
3. How .....	30
Data block 8: Proposed data for future reporting: Food processing industry .....	32
1. What .....	32
2. Why .....	32
3. How .....	32

## Introduction

For a common understanding the Commission describes the parameters of the reporting system in nine data blocks. Each data block is described in a separate document, which is structured similar to the WFD reporting sheets and clearly organised.

The document for each data block defines WHAT is needed, WHY it is needed and HOW the data has to be provided. The description of the WHY considers not only purposes of the UWWTD but also other purposes in the frame of WISE, for example, state-of-environment reporting (SoE-reporting) or data needs reporting for OECD/EUROSTAT joint questionnaire on inland waters.

Data blocks 0-4 and 7 forms the Questionnaire-2007, i.e. the data and information which will be requested by the Commission from the Member States in early 2007.

Data blocks 5, 6 and 8 will be discussed and finalised during the year 2007. However Member States are invited to report the data included into the blocks 5, 6 and 8 on a voluntary basis. The request of these data is clearly distinguished in the IT-tool. No compliance-check will be done for these reporting blocks (5, 6 and 8).

Data blocks (= reporting sheets) of UWWTD reporting:

0. General information about the report and contact details
1. Inventory of receiving areas and catchments
2. Master data on agglomerations (including urban waste water treatment plants, discharge points and receiving areas)
3. Collecting systems: basic questions
4. Treatment level and performance
5. *Compliance: new details on collecting systems (for discussion during 2007)*
6. *Other important data needs: loads treated and discharged for each UWWTP, SoE, information to the public, statistics (for discussion during 2007)*
7. Aggregated information on MS-level: sludge and treated waste water re-used
8. *Food processing industries (for discussion during 2007)*

## Data block 0: General information about the report and contact details

### 1. What

General information about the report is the ID of the Member State, the report ID and data on situation date and version of the report. Every data-set refers via the report ID to this general information about the report.

Contact details are name, institution and address information of the person officially responsible for the reporting on UWWTD-data to the Commission. More than 1 person can be indicated [*Note: It is recommended that only 1 contact person should be indicated per Member State.*]

### 2. Why

The general data of the report is absolutely necessary for electronic processing of the data. Each data set refers to the general report data and its meta-information as e.g. Member State, situation date, version number etc. needs. The advantage is that the situation date and all the other general information needs to be reported only once per reporting exercise.

Contact details are necessary to communicate with the responsible(s) in the Member State in case of clarification needed.

### 3. How

- Member State: 2-digits ISO-ID (e.g., AT, BE, CY,...)
- Reported Year (considering the date of the reported situation this will be done automatically by the reporting tool)
- Report ID: ID according to rules described in data block 2
- Situation as at: Date of reported situation. For monitoring data it is the calendar year
- Version: Date and time of validation process (this will be done automatically by the validation tool)
- Name of contact person: Officially nominated person that could be contacted by the Commission in case of further clarifications needed
- Institution data of contact person: address, phone, fax, e-mail
- Remarks: Further information if this is necessary

Textual information could be provided preferably in English language (otherwise – in national language). For each Member State only one data-set (per reported year) has to be reported to the Commission (this means it is not possible, that different administrative units of one Member State deliver their data separately to the Commission).

After sending the completed questionnaire to DG ENV, no further amendments should be done. If new data is delivered by a MS to COM before the defined deadline of reporting, the whole existing dataset of the MS will be deleted and the new version will be up-loaded and used for assessment.

To ensure consistency and comparability of the information and data it is strongly recommended to report information for only one reference year on the status in all agglomerations for one Member State. The reference year is 2005. However if the Member State has already the data for all agglomerations for the year 2006 they are very welcome to report it. The clear indication of the reported year should be given in the **Data block 0**.

As concerns aggregated information at the MS level on sewage sludge and waste water re-use (see the **Data block 7**) there is also a possibility to report a more recent (e.g. for the year 2006) aggregated information at a Member State level.

Concluding a possibility to report for more than one reference date (and accordingly link it to a new Report-ID) should only be taken into account, if a MS is able to provide - in addition to the reference date requested by DG ENV – more recent data.

# Data block 1: Inventory of designated receiving areas and catchments

## 1. What

Each area, which is designated either sensitive according to Art. 5(1) or identified as less sensitive according to Art. 6(1) has to be described in the electronic report to the Commission. The Commission needs data on the type of the receiving area (i.e. sensitive area, catchment of sensitive area, less sensitive area), designation dates, designation criteria and in case of application of Art. 5(4) information about total incoming and discharged loads of N-tot and P-tot. Article 5 of the Directive requires designation of the receiving areas.

## 2. Why

The purpose of this block is to have: (i) a complete updated inventory-list of the receiving areas (sensitive areas, their catchments, less sensitive areas and normal areas) per each Member State, (ii) the criterion used indicating sensitivity of each area, and (iii) the geographical location (**GIS shp-files per each area**).

The reason is that in combination with the load generated in the agglomeration and the type of receiving water body (coastal, estuary, freshwater), it is the type of receiving area (i.e. sensitive area or catchment of sensitive area, less sensitive area or 'normal area') that defines the treatment requirements. Furthermore, in some cases the opinion of the Commission regarding sensitivity of a receiving body or receiving area may differ from the opinion of the Member States. In order to verify this detailed data is required. This information is also essential for the assessment of the State of Environment (SoE) in a particular water body and/or river basin and furthermore to assess measures taken/needed or to be taken to reach the quality objectives for the particular water body.

It is essential for the compliance check to have data on type of designation and designation date available for each sensitive area, catchment of sensitive area and less sensitive area and to link this data with the treatment requirements according to the generated load in the agglomeration (to check the actual treatment in urban waste water treatment plants, UWWTPs).

In case of application of Article 5(4) the Member States have to prove for the concerned areas that the pollution load removal rates for N-tot and P-tot are at least 75% when calculating it as overall load for N-tot and P-tot for **ALL UWWTPs in this area**. To calculate this and to have confidence that all relevant UWWTPs were taken into account in this particular area, the Commission requires information about the total number of treatment plants situated in this area taken into account for the calculation of overall incoming and overall discharged loads. The Commission is aware that for smaller UWWTPs (less than 2,000 p.e.) loads have to be calculated on the basis of emission factors or are to be estimated by experts. The information on the overall incoming and discharged loads for N-tot and P-tot must be reported indicating the methodology used for each part of the load obtaining the reduction rate. Therefore UWWTD reporting system takes this into consideration with indication of "measured", "calculated" or "estimated" (for calculation and estimation it is recommended to use methodology explained in the FINAL guidance paper on "Terms and definitions for UWWTD" (version of 16/01/2007) which in principle is similar to Guidance Document for E-PRTR - implementation (see: [eper.eea.eu.int/eper/documents/E-PRTR\\_GD-02062006\\_FIN.pdf](http://eper.eea.eu.int/eper/documents/E-PRTR_GD-02062006_FIN.pdf)).

## 3. How

All data per receiving area (with some exceptions for less sensitive areas – see below).



**All receiving areas:**

- ID of the area: According to ID-rules as described for data block 2
- Name of the area: e.g. name of the river, lake, catchment...
- Type of the area: Sensitive area / Normal area / Less sensitive area/ Catchment of sensitive area in the sense of Art. 5(5) / sensitive area where Art. 5(4) is applied/ area where Art. 5(8) (entire Member State) is applied
- Related Sensitive Area (in case of the catchment of a sensitive area, the related sensitive area has to be selected from the list)
- Last date of designation or revision
- Root of corresponding GIS- Data File: line or polygon information has to be provided as shp-file. The name and location of this file needs to be indicated here (in case Art. 5(8) is applied, the MS does not have to deliver a GIS-file)
- Remarks: Further information if this is necessary. It is highly recommended to indicate the reference of the national legal act on designation/review of the receiving areas. Remark fields will not be considered in the automatic assessment procedure but will be used for clarification purposes or further explanation needs.

**Sensitive areas and catchments of sensitive areas (where Art. 5(1) and 5(2, 3) is applied):**

- Designation Criteria (a, b, c) (Annex II.A of the Directive): a – Nitrogen and/or Phosphorus, and / or b, and / or c.  
If criteria c) is relevant, additional information on the relevant EU-Directives, related parameters under which criterion c) is applied, the ID, applied to the area according to this Directive and the reference date of the area according to this Directive have to be indicated.

**Sensitive areas and catchments of sensitive areas (where Art. 5(1) and 5(4) is applied):**

- Starting date of application of Art. 5(4)
- Number of UWWTPs in this area
- Total organic design capacity of ALL these UWWTPs (p.e.)
- Annual overall incoming loads and discharged loads of  $N_{tot}$  and  $P_{tot}$  (determination according to measured, calculated and estimated values) aggregated for the entire Art. 5(4) area and its catchment. The calculation of the overall reduction rate has to be based on incoming and discharged loads of ALL UWWTPs in the area.

**Please note, that also UWWTPs with an organic design capacity of <2,000 p.e. have to be taken into account.**

The overall annual reduction rate on measurements or on measurements and reliable estimates should be determined:

- a) For treatment plants > 10,000 p.e., the monitoring /measurement results on N and P shall be used;
- b) For treatment plants < 10,000 p.e., monitoring /measurement data may be complemented or replaced by reliable estimates.

All the methods used should consider all samples taken as foreseen by the Directive and additional samples done for surveillance and operational purposes as far as they lead to more accurate annual numbers (see also FINAL guidance paper on “Terms and definitions for UWWTD“ (version of 16/01/2007))

- Remarks:

- a) To avoid further requests, it is recommended to include information on the threshold (in p.e.) from which a treatment plant is included into calculation of the overall load and
- b) to provide details on calculation methods used.

#### **Areas (= entire Member State) in which Article 5(8) is applied:**

- Starting date of application of Art. 5(8)
- Parameters subject to more stringent treatment: Nitrogen and/or phosphorus (tick boxes) and/or other parameters subject to more stringent treatment (tick box and description as a text)
- In case when Art. 5(4) is applied in an Art. 5(8) area, the same information as for sensitive areas (under Art.5(1)) with application of Art. 5(4) needs to be provided (see above)

#### **Less sensitive areas:**

- Selection of designation criteria (Annex II.B): morphology and/or hydrology and / or specific hydraulic condition and / or absence of risk of transfer of discharged load to adjacent areas (tick-boxes)

## **4. Other explanations on reporting:**

### **4.1 Designation of sensitive areas: Reporting concerning designation criteria c)**

If a sensitive area / a catchment area of sensitive area is designated according to criteria c), the MS should indicate the relevant EU-Directive, the ID, applied to the area according to this Directive and the reference date of designation of this area under another Directive. If the relevant Directive is e.g. the Water Framework Directive, then the ID should be identical with the ID defined under the UWWTD, as the methodology for coding is the same (Guidance document N 9 of the Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Implementing the Geographical Information System Elements (GIS) – see data block 2). If no ID-code is available under reporting under another Directive, either an ID-code should be developed according to Guidance document N 9 or (e.g. reporting for Bathing Water Directive) the national identification number should be used.

No additional metadata attributes originating from reporting under other Directives should be reported under UWWTD to avoid double – reporting. In the future this information will be available by means of ID-codes via WISE.

If attributes that are relevant for UWWTD are not available from the other (than UWWTD) reporting exercises, they have to be reported under UWWTD. This is the date of designation, the designation criterion (c) and the indication of the relevant parameters for UWWTD. The link between the attributes collected under UWWTD and its attributes collected by another type of reporting is established via the same ID. However, it is very important that at the reporting deadline for UWWTD all relevant attributes are available for the Commission, either from UWWTD reporting or another reporting requirement under a different Directive (as e.g. WFD).

**The GIS-shp-files of the sensitive areas have to be up-loaded to the UWWTD-questionnaire in any case. If it is guaranteed that the extent and the borders of the area designated under the UWWTD and under another Directive are identical, the GIS-shp file delivered for reporting under another Directive can be provided for UWWTD-reporting.**

## 4.2 Reduction rate of the total load: Calculation methods

This section gives additional explanation on data generation in case data on influent and discharged loads of N-tot and P-tot is not measured or in case measurement frequency is too low to give representative and comparable data. Under these conditions the use of reliable calculation methods (“C”) is recommended.

The indication “C” is used when the releases are based on calculations using activity data (fuel used, production rate, etc.) and emission factors or mass balances. In some cases more complicated calculation methods can be applied, using variables like temperature, global radiance etc.

For UWWTPs <2.000 p.e. a common approach to calculate N-tot and P-tot in the influent of UWWTPs is the use of the inhabitants connected to the UWWTP in combination with estimation coefficients. As in urban waste water treatment plants <10,000 p.e. the influence of industries connected is typically low, it is reliable to consider only the number of inhabitants connected. For the incoming loads of N-tot and P-tot this number is multiplied with an estimation factor. This factor has to be developed individually in each country, as it is strongly influenced by the geological, social, economic and technical background of a country. Sources of estimation coefficients could be bench-marking – projects or special surveys. The Austrian example for the use of estimation coefficients is given in: Zessner, M. & Lindtner, S. (2005). Estimations of municipal point source pollution in the context of river basin management. *Water Sci Technol.* **52(9)**, 175 – 182.

For the outgoing loads of UWWTPs <2,000 p.e. N-tot and P-tot can also be calculated on the basis of estimation coefficients. These estimation coefficients are based on the treatment technology in place and should be developed individually in a country. Examples for removal-coefficients used in Austria are given in: Zessner, M. & Lindtner, S. (2005). Estimations of municipal point source pollution in the context of river basin management. *Water Sci Technol.* **52(9)**, 175 – 182.

## Data block 2: Master data of agglomerations

(including urban waste water treatment plants (UWWTPs), discharge points and receiving areas)

### 1. What

Identification numbers (IDs), names, coordinates and keys used for linking to other elements are the **absolute minimum requirements** for a systematic and electronic data collection. For the purpose of UWWTD-reporting this data is considered as master data of the data collection.

### 2. Why

Master data describe the object (i.e. agglomeration, UWWTP, discharge point) to which transaction data (data that typically changes from one reporting period to another) will be linked with every update of the data collection. Master data are typically not changing from one reporting period to another and they only need to be updated once they have changed or errors are to be corrected. Changing of already existing master data is an immense interference and needs clear rules.

IDs serve as unique identifier (key) in the database and are needed to link objects together (e.g. to link with UWWTPs serving these agglomerations) and to link transaction data via this key.

Coordinates are important for mapping, to link indicators for pressures-impact analysis and SoE analysis, spatial queries within WISE and also for compliance checking.

Other important master data are:

- i. The generated load of agglomeration. The information is needed for defining treatment requirements, according to the thresholds indicated in the Directive, as the generated load of agglomeration, the type of receiving water body (freshwater, estuary or coastal) and type of receiving area (e.g. sensitive, normal, etc.) defines treatment requirements; and
- ii. The date of the deadline of the UWWT Directive or transitional period that is valid for the particular agglomeration of concern.
- iii. For discharge points it is important to have links to receiving waters (freshwaters, estuaries, coastal waters), WFD-water bodies and receiving areas (i.e. for sensitive areas and their catchments, normal areas, and, as an option, for designated less sensitive areas).

The master data will be used for: (a) mapping, linking the objects, i.e. agglomeration – collecting system – urban waste water treatment plants - discharge point - receiving area and receiving water body; (b) inventory of all agglomerations and treatment plants falling under the requirements of the UWWT Directive; (c) and other purposes, e.g., to analyse state of the environment in the EU Member States at various levels (Member State level, River basin district or catchment area level, etc), statistical purposes to present information for a general public, etc.

### 3. How

- ID of the objects (agglomeration, UWWTP, discharge point and receiving area, big city/big discharger, etc.): Generation of IDs according to ID-rules described in UWWTD-GIS Guidance document and rules for changing of IDs as elaborated by the WG on UWWTD-reporting (to be attached as separate draft document).

- ❑ Names of the objects: Names, which allow the finding of the object on an electronic European map. This means e.g. that the name of the agglomeration should be identical with the major settlement forming this agglomeration, but not the name of the treatment plant. However, in case the agglomeration has already been reported in previous UWWTD-reporting, the name listed in this reporting should be kept, to avoid changes of master data and to ensure comparability of reporting under Questionnaire 2007 and previous reporting exercises.
- ❑ Geographic information: X and Y coordinates (centre of the object, e.g. centre of agglomeration) according to **UWWTD GIS guidance**<sup>2</sup>. In cases where one settlement is considered as agglomeration, the co-ordinates of centre of the settlement should be reported. If several settlements are considered as one agglomeration, it is recommended to arithmetically average the co-ordinates of the centres of all settlements concerned. The co-ordinates of the agglomeration are not used for any compliance check under the UWWTD, but are used for mapping the agglomerations. The compliance check (whether an agglomeration discharges into a NA, SA or LSA, is done based on co-ordinates of discharge points.
- ❑ Region (NUTS): see explanation below

Besides four items indicated above the following master data for agglomerations, UWWTPs and discharge points and receiving areas shall be indicated

❑ **Master data for agglomerations:**

- ID of the agglomeration
- Generated load (p.e.)
- Method used for calculation of the generated load (p.e.) of the agglomeration (short textual explanation)
- Are there significant changes of the generated load compared with the previous report (Y/N)?
- Comments on significant changes of the generated load compared with the previous reported load
- Is this agglomeration part of a big city/ big discharger (Y/N)?
- ID of big city/big discharger to which this agglomeration belongs
- Name of big city/big discharger to which this agglomeration belongs
- Date of the relevant deadline of UWWTD or transitional period (e.g. 1998 for agglomeration in sensitive area or for new MS – the deadline according to the transitional period. New designated sensitive areas (SA) shall meet the requirements of the Directive within seven years, pursuant to art. 5(7)).

❑ **Master data for UWWTPs:**

- ID of a particular UWWTP serving the agglomeration
  - **Important note:** *To maintain consistency and streamlining reporting in a future, for UWWTPs having the load of > 100,000 p.e. it shall be ensured that the ID of the plant is identical to the ID of facility reported under EPER or E-PRTR regulation Annex III*
- Identification whether it is the existing UWWTP (in operation) or a collecting system without waste water treatment (this distinction has to be done when uploading structured data - see also data dictionary; in case of manual data entry via the forms of the IT-tool the system makes the distinction automatically).
- IDs of the agglomerations which are served by the particular UWWTP (1 UWWTP can serve more than 1 agglomeration – m:n relation; for details see chapter 2.1 of the Manual)

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<sup>2</sup> See separate document from the list of guidance documents drafted for reporting exercise under UWWTD for the Questionnaire 2007

□ **Master data for discharge points and receiving areas and water bodies:**

- ID of UWWTP (or collecting system without treatment), discharging via the particular discharge point(s) (this parameter is in the heading and will be filled-in automatically by the IT-tool)
- Select degree of sensitivity of receiving area (Normal Area, Sensitive Area (or its catchment), Less Sensitive Area, Art. 5(8) area)
- ID of receiving area (if an UWWTP has more than one discharge points, e.g. several discharge points in case of discharge on 'land', then each of these discharge points has to be reported separately)
- Are there surface waters available (Y/N)?
- Discharge: to freshwater/ to estuary/ to coastal water/ on land (catchment of freshwater and / or estuary)/ on land (catchment of coastal water)
- In case of discharge on land specification of the purpose (Irrigation/ Infiltration/ other)...
- ID of WFD waterbody
- ID of groundwater body
- ID of receiving water (once there is a unique coding in Europe)
- ID of WFD sub-unit (once implemented) or WFD river basin district [note: this is important for cases where discharges cannot be linked to a water body reported under WFD: e.g. small rivers or treated waste water re-use cases or discharges on land]

For each individual discharge point in a **less sensitive area** the following information should be provided:

- Do comprehensive studies indicate that the discharge does not adversely affect the environment? (Y/N)
- Has the Member State provided these studies to the Commission? (Y/N)
- Did the Commission formally accept that the conditions under Art. 6(2) are met? (Y/N)

Note: In principle, master data need to be reported only once. In case of changes of the generated load of agglomeration an update and further explanation is necessary.

## 4. Other explanations on reporting

### 4.1 Creation of unique European codes for objects

IDs are necessary to identify each object in the database via a UNIQUE code and to show relations between the objects (e.g. which urban waste water treatment plant serves which agglomeration).

The rules are based on the Guidance document N 9 of the Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Implementing the Geographical Information System Elements (GIS). (see WFD-CIRCA web site page [http://forum.europa.eu.int/Public/irc/env/wfd/library?l=/framework\\_directive/guidance\\_documents/guidancesnos9sgisswgs31p/EN\\_1.0\\_&a=d#search=%22GIS%20guidance%20WFD%22](http://forum.europa.eu.int/Public/irc/env/wfd/library?l=/framework_directive/guidance_documents/guidancesnos9sgisswgs31p/EN_1.0_&a=d#search=%22GIS%20guidance%20WFD%22) for the document)

Unique European codes should be generated by placing a 2 – character country code in front of up to 22 characters unique identifier codes generated within countries.

**Important: only use A-Z, 0-9 or underscore**

**Example:** An Italian urban waste water treatment plant has the national number 11022. Therefore, the resulting ID, which is used for UWWTD (WISE)-Reporting is IT11022.

## 4.2 Calculation scheme for the generated load of an agglomeration

### 1. The general calculation scheme:

The calculation of the generated load should include at least:

- the resident population + seasonal changes + non-resident population (e.g. tourism) and
- industrial waste water (such as from small and medium sized enterprises and/or economic activities) being discharged into an urban waste water collecting system or urban waste water treatment plant (= industries covered by Article 11 of the Directive) and
- loads of domestic waste water or urban waste water from the above-mentioned sectors which should be collected by the collecting system (and/or addressed through IAS), but are not collected or do not reach the treatment plant (incomplete collecting systems, etc.)

This approach is generally applicable. It applies to the entire agglomeration and includes the areas not yet served with collecting systems and/or IAS and the areas not yet served by treatment plants.

### 2. Examples for other calculation

The working group on Reporting for UWWT Directive has discussed in 2004-2005 also other methods to determine the generated load of an agglomeration. Important is that in any case the real load must not be underestimated! The following discussed methods can only be applied under certain circumstances for practical reasons and the Commission might request further information from the Member State supporting the chosen method and proving that leads to equal (or higher) loads for each agglomeration as the general calculation scheme described above.

### 3. Use of the treatment capacity of the plant(s) as an indication of the generated load:

***In the specific case of complete collecting system***, the generated load (calculated according to the above calculation scheme) will be equivalent to the total load collected by collecting systems. In this case, and in the absence of leakages and overflows, the total collected load will furthermore be equivalent to the total connected load entering the treatment plant(s).

In those specific cases, the treatment capacity of the plant(s) (also called the organic design capacity) serving the agglomeration may be used as a reliable indication of the generated load. The treatment capacity of the plant generally also needs to include forecasted growth of the agglomeration as well as a safety reserve.

In summary this approach can therefore be used if:

- The agglomeration size (in p.e.) is not underestimated, **and**
- The collecting system of an agglomeration (based on article 2(5)) is complete for at least 95% **and**

- Leakages and overflows of the collecting system are reduced to an absolute minimum<sup>3</sup>, **and**
- All collected waste water is effectively entering<sup>4</sup> the treatment plant, **and**
- The calculation of the treatment capacity must reflect at least the entirely generated load of the agglomeration (see general calculation scheme).

#### 4. Calculation of the generated load through use of a 'weighting factor'.

In very exceptional cases the incoming load of an UWWTP plus a weighting factor as an indication for the generated load may be used:

- This approach **is only applicable if treatment works are already in place**. The incoming load of a treatment plant (maximum average weekly load) can be used as a basis for the calculation **if** in addition the generated, but not yet collected and/or connected, load is taken into account by a weighting factor.
- Even if the calculation of the generated load is based on the incoming load as well as a specific weighting factor, there is a risk that the actual size of an agglomeration may not be fully reflected. The generated load, in particular, loads which ought to be collected and treated, but are not, may be underestimated. Therefore, **use of this calculation method is only appropriate if the following pre-conditions are met:**
  - a. The agglomeration size **is not underestimated**<sup>5</sup>
  - b. **Complete collecting system is in place and treatment is in place**
  - c. In order **to prove the acceptability of the method**, the following additional information is provided:
    - i. The weighing factor for the agglomeration together with explanation on the method used on its estimation
    - ii. A verification of the appropriate application of the term agglomeration, which shows that the agglomeration size is not underestimated (e.g. the agglomeration corresponds to the catchment area of the respective UWWTP(s) and no significant settlements exist which are not served by the plant and/or an individual equivalent treatment).
    - iii. The organic design capacity (in p.e.) of treatment plant(s) serving the agglomeration
    - iv. The connection rate (in %) of this agglomeration to treatment plant(s) serving the agglomeration.

In cases of doubt as to whether this method is appropriately used, the Commission may request further information (e.g. to provide calculations by using paragraph 1). Member States should not restrict or simplify the calculation in such a way that the generated load of agglomerations is underestimated or the provisions of the Directive are undermined in any other way.

<sup>3</sup> Taking into account also Annex I.A and IB and the footnote

<sup>4</sup> 'entering' means that waste water reaches the plant which is connected by the collecting systems (systems of conduits) and addressed by individual and/or other appropriate systems (IAS) for collection of urban waste water

<sup>5</sup> 'underestimated' means that not all sectors described in chapter 1.4 of the Final Guidance paper on 'Terms and definitions' of the Urban Waste Water Directive, version 16/01/2007 are considered



5. Member States should provide the Commission **with information on the approach/method, which they have used** for calculating the generated load of an agglomeration. The Member States should ensure that the generated load of an agglomeration is not underestimated or the provisions of the Directive not undermined. The Commission will assess whether a Member State's approach and/or its verification is appropriate. In case of doubts further information may be requested.

### 4.3 Reporting of big cities / big discharger

In the reporting tool the EC has provided the list of "real" big cities and their IDs according to the Geographic Information System of the Commission of the European Communities (CISCO). In case a big city is not in this list, the MSs should design a new unique ID number for this particular big city (e.g. the 150,000 p.e. threshold is achieved due to an industrial part in the urban waste water collecting system). In case the big discharger/big city is identical to one single agglomeration with more than 150,000 p.e., then the ID of this agglomeration should be also used as ID for the big discharger/big city.

Some big dischargers may also fall under reporting obligations according to E-PRTR, which considers urban waste water treatment plants with a capacity of 100.000 p.e.

### 4.4 Reporting the ID of region (NUTS)

The ID of the region based on NUTS-classification begins with a two letter code referencing the country, which are identical to the ISO 3166-1 alpha-2 codes (example AT for Austria, DE for Germany). The subdivision of countries is then referred with one number. A second or third subdivision level is referred with another number each. Each numbering starts with 1 as 0 is used for the upper level. In case it has more than 9 entities capital letters are used to continue the numbering.

German example:

*DE: Germany*

*DE7: Hesse - The Bundesland as the top level subdivision of Germany*

*DE71: Darmstadt region - Regierungsbezirk as second level*

*DE71E: Wetteraukreis - Kreis as the third level*

The NUTS-classification is available under the following web-page: [http://ec.europa.eu/comm/eurostat/ramon/nuts/splash\\_regions.html](http://ec.europa.eu/comm/eurostat/ramon/nuts/splash_regions.html). For the purpose of the questionnaire the most detailed NUTS-level available should be indicated.

If one agglomeration covers two different NUTS-regions, it is recommended to report that region, which covers the biggest part of the agglomeration. The list of NUTS codes will be included into the IT-tool, and the Member States have to select the NUTS code from the list.

### 4.5 Reporting in case one agglomeration is served by an UWWTP, which is situated in another MS

In the specific case where one agglomeration is served by one (or more) treatment plants in another Member State, the agglomeration should be linked to the ID of the UWWTD, which is reported in the other country.

Fictive example: *the waste water of the Austrian agglomeration AT1 is treated in the German UWWTD DE1 → for the purpose of the questionnaire agglomeration AT1 is linked to UWWTP DE1.*

## 4.6 Specific cases: Reporting in case treated waste water is discharged on land or in the underground

In case no surface waters are available for discharge of receiving treated waste water, treated waste water may be discharged on land (e.g. irrigation) or recharged into the aquifer.

In case treated waste water is **discharged on land** (e.g. irrigation), the following information should be reported:

- Coordinates of the discharge point: X and Y coordinates of the geographical centre of the receiving area
- ID of receiving area: According to the **UWWTD GIS-guidance** the ID of the receiving area
- ID of receiving water body: this parameter should be indicated as empty cell
- ID of WFD sub-unit (once implemented) or River Basin District (RBD)

In case treated waste water is **recharged into the ground (water)**, reporting the following information should be reported:

- Coordinates of the discharge point: X and Y coordinates of the location of recharge into the ground (water)
- ID of receiving area: According to the **UWWTD GIS-guidance** the ID of the receiving area (i.e. the area, where the point of recharge is located)
- ID of receiving water body: the ID of the receiving ground water body (the same as used for WFD reporting) should be indicated
- ID of WFD sub-unit (once implemented) or RBD

## 4.7 Some other explanations:

**Seasonal changes:** Seasonal changes are significantly changing loads (in terms of p.e.) due to seasonal tourism or production campaigns (e.g. sugar production). According to Article 4(4) the load expressed in p.e. shall be calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.

**Small and medium sized enterprises:** The definition of this term is provided by the European Commission and is available at the following web-site: [http://ec.europa.eu/enterprise/enterprise\\_policy/sme\\_definition/index\\_en.htm](http://ec.europa.eu/enterprise/enterprise_policy/sme_definition/index_en.htm)

## Data block 3: Collecting systems: basic questions

### 1. What

- Data on waste water loads collected through collecting systems (system of conduits defined in Art.2(5) of the Directive), in individual or appropriate systems (IAS) and data on load not collected according to requirements of UWWTD Article 3.
- Data on loads collected through the collecting systems (Art.2(5)) and treated in UWWTPs
- Data on discharge points of load collected through collecting systems (Art.2(5)) but not treated in UWWTPs (i.e. discharged without waste water treatment) (Here discharge points from storm water runoff-facilities are excluded).

### 2. Why

This data is needed for the compliance check of Article 3 of the UWWTD and to identify those particular agglomerations where the Commission may request further information to check compliance (e.g. further details about individual or appropriate systems). This data are also needed for the purpose to identify and assess the biggest pressures to the receiving water body and to identify measures to be included to the programme of measures especially in case of collected but not connected waste water or not collected waste water at all within an agglomeration.

The Commission's intention is in the near future to ask for absolute loads (p.e.) collected, treated in UWWTPs and discharged without waste water treatment. This would be then consistent with reporting to EUROSTAT/OECD-Joint Questionnaire on Inland Waters (see Table 7 of Eurostat/OECD questionnaire)<sup>6</sup> and reporting of the Member States would be only once.

Details regarding best technical knowledge and measures applied for collecting systems for the protection of the environment and in order to limit the pollution from leaks and storm water overflows are dealt with in data block 5.

### 3. How

- ID and name of the agglomeration (will be filled-in automatically by the reporting tool)
- Rate of generated load of agglomeration (% of p.e.)
  - (a) collected through collecting system (as described in Art.2(5));
  - (b) collected through collecting system and treated in UWWTPs (i.e., How much in % of the generated load (p.e.) of the agglomeration is treated in each individual UWWTP?);
  - (c) collected, but discharged without treatment;
  - (d) addressed through IAS;
  - (e) not collected at all (i.e. not collected through collecting system and not addressed through IAS).

For all these parameters (from a to e) the following information shall be reported:  
(1) a distinct (exact) value in % from total generated load in agglomeration (p.e.)

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<sup>6</sup> Information and links regarding the EUROSTAT/OECD-Joint Questionnaire on Inland Waters is provided on the EIONET Reporting Obligations Database: <http://rod.eionet.europa.eu/show.jsv?id=48&aid=583&mode=A>

(2) the method used to obtain this (%) value (calculated or estimated) (For every of these values there is a box in the reporting IT-tool to indicate whether it was calculated or estimated).

Remarks (e.g. if there is a load which is not collected at all it is strongly recommended to indicate the date of planned compliance with the Article 3 of the Directive)

**Master data of discharge point without treatment**

○ The information to be reported in this case is identical to information described in data block 2 for master data of discharge points:

- ID of the agglomeration (will be filled-in automatically by the IT-tool)
- Name of agglomeration (will be filled-in automatically by the IT-tool)
- ID of collecting system
- Name of collecting system
- For each of the discharge points without treatment:
  - ID of discharge point
  - Name of discharge point
  - Geographical information: X and Y coordinates
  - ID of region (NUTS)
  - Selection of degree of sensitivity of receiving area (Normal Area, Sensitive Area (or its catchment), Less Sensitive Area, Art. 5(8) area)
  - Receiving area (parameter is active in case Sensitive Area (or its Catchment) or Less Sensitive Area is ticked (select receiving area from the list of receiving areas inserted)
  - Are there surface waters available (Y/N)?
  - Discharge (selection could be made from the list): to freshwater/ to estuary/ to coastal water/ on land (catchment of freshwater and / or estuary)/ on land (catchment of coastal water)
  - In case of discharge to land specification of the purpose: Irrigation/ Infiltration/ other (tick box)
  - ID of WFD waterbody
  - ID of groundwater body
  - ID of receiving water (once there is a unique coding in Europe<sup>7</sup>)
  - ID of WFD sub-unit (once implemented) or WFD river basin district [note: this is important for cases where discharges cannot be linked to a water body reported under WFD: e.g. small rivers or treated waste water re-use cases or discharges on land
  - Remarks

For each individual discharge point in a **less sensitive area** the following information should be provided additionally:

- Do comprehensive studies indicate that the discharge does not adversely affect the environment? (Y/N)
- Has the Member State provided these studies to the Commission? (Y/N)
- Did the Commission formally accept that the conditions under Art. 6(2) are met? (Y/N)

<sup>7</sup> The Guidance document N 9 of the Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Implementing the Geographical Information System Elements (GIS) foresees the implementation of a unique coding for Europe. Final agreement on the structure of coding was achieved recently and is supposed to be laid down in the up-date of Guidance document N 9.

## 4. Other explanations on reporting

### 4.1 How to report the % generated load

Concerning the % of generated load a distinct value should be reported in combination with a description of the method used to obtain data. Methods to obtain data include calculation (C) and estimation methods (E)

Methods of estimation comprise best assumptions or expert judgement but should be as precise as possible. Methods of calculation are usually based on available references (e.g. the use of waste water volumes in combination with BOD<sub>5</sub> – measurement or the knowledge of the number of inhabitants served by the individual types of wastewater collection) are supposed to have a range of only a few percent.

Reporting a distinct % - value instead of % - ranges bears the advantage, that data can be used for other (statistical) purposes such as the OECD/Eurostat Joint Questionnaire on Inland Waters. However, as the % - parameters of concern in this data block are very often afflicted with a high range of uncertainty (based on the methods used to collect data, and based on the fact that the generated load of an agglomeration is not a well-defined and precise figure), it is **essential that the range of uncertainty is given together with the distinct value** (e.g. in the *Remarks*-field), as the reported data will be used for other (statistical) purposes.

## Data block 4: treatment level and performance

### 1. What

For every UWWTP data on existing treatment levels (operational at the situation date indicated in the general report data) and actual performance in the reference year has to be provided. The assessment of performance (pass / fail / not relevant) has to be based on the reference methods of Annex I.D. of the Directive for the relevant parameters of Table 1 and Table 2 of Annex I. In case the Member State has implemented stricter emission values than required according to UWWTD the performance can be determined against Table 1 and Table 2 of Annex I.

### 2. Why

The UWWTD defines secondary treatment level as minimum requirement for waste water treatment in agglomerations with more than 2,000 p.e. (10,000 p.e. in case of discharge into coastal waters). Discharges into areas designated under Article 5 as sensitive require more stringent treatment according to the specific sensitivity of the receiving area (N-removal / P-removal or other type of more stringent treatment). The requirements of a specific parameter to be removed/treated according to the designation criteria of the sensitive area where waste water is discharged shall be indicated.

For the compliance check of Articles 4 and 5 (and for the exceptional case of less sensitive areas) data on the actual treatment facilities in place (and operational) is required. Furthermore, data on performance (based on monitoring results according to Annex I.D.) is required to assess the proper operation of the plant in the reference year (calendar year).

In case the UWWTP was closed since the last reporting exercise, the date and the explanation about what happened to this waste water, where it was re-addressed for treatment after closing treatment plant is necessary to avoid further request for clarification. The information in this block is needed for DG ENV to check implementation of the UWWT Directive. Furthermore this information is used for State of environment (SoE) reports for EEA, and for the Eurostat/OECD activities on statistical calculations on European wide level, for the public, NGOs and researchers to assess environmental status at the EU level as well as on the single Member State level. In practice this means that information provided under UWWTD-reporting does not need to be reported again to Eurostat or EEA (e.g. the Eurostat/OECD Joint Questionnaire on Inland Waters will be pre-filled with the data obtained via UWWTD-reporting before sending it to Countries for completion).

### 3. How

All data are requested per each urban waste water treatment plant (UWWTP).

#### General information:

- ID of UWWTP
- Name of UWWTP

#### Existing treatment

- Load entering UWWTP (p.e.)
- Organic design capacity (p.e.)
- Indication of treatment levels that are operational at the reference date (tick list):
  - primary
  - secondary
  - more stringent

- N-removal
  - P-removal
  - UV
  - Chlorination
  - Ozonation
  - sand filtration
  - microfiltration
  - 'other' type of more stringent (and specification in the form of a text in the remark field)
- In case the UWWTP was closed since the last reporting exercise:
- Closing Date of closing of the UWWTP
  - Explanation for closing of the UWWTP/ What happened with the waste water since the last reporting exercise? (text)
- Remarks:** Please provide information on **new treatment or planned treatment**. An indication of the time schedule in dd/mm/yy for construction and operation and treatment level of new UWWTPs and/or collecting system coverage in % of the total generated load should also be done in the remark field.

### Performance:

- Performance is to be indicated for the individual parameters: TSS, BOD<sub>5</sub>, COD, N-tot, P-tpt and Others<sup>8</sup>: 'pass' / 'fail' / 'not relevant'. In any case the data fields must not be blank! Depending on the type of receiving area and the size of the agglomeration the following indications are possible:

	TSS	BOD <sub>5</sub>	COD	N-tot	P-tot
Normal Area	pass / fail / not relevant	pass / fail	pass / fail	not relevant	not relevant
Sensitive Area (Art.5(2-3))	pass / fail / not relevant	pass / fail	pass / fail	pass / fail / not relevant	pass / fail / not relevant
Sensitive Area (Art.5(4))	pass / fail / not relevant	pass / fail	pass / fail	pass / fail	pass / fail
Less sensitive Area	pass / fail	pass / fail	not relevant	not relevant	not relevant

- Information on cause of failure (option for Member States for further explanation) (tick-boxes): Bad performance/ Major accidents / Bad design or dimensioning + further information on cause of failure (textual information)

## 4. Explanations

**Load entering the UWWTP (p.e.):** The parameter "load entering the UWWTP (=incoming load)" is not explicitly required by the Directive but is an important indicator for existing wastewater treatment facilities and further improvement of wastewater treatment in a Member State.

The parameter is requested also as valuable information, which will be available for other (statistical) use. The OECD/Eurostat Joint Questionnaire on Inland Waters for instance asks for the actual occupation (in terms of BOD) of waste water treatment plants. In addition, the parameter provides the possibility to check, if the design capacity of a waste water treatment plant will be exploited in the near future. Difference to data block 3 (% of generated load of agglomeration connected to a collecting system and treated in UWWTPs): The parameter in

<sup>8</sup> The parameter 'Others' refers to additional parameters indicating treatment performance (e.g. microbiological parameters like Escherichia coli)

data block 3 is the % of generated load of an agglomeration connected to the UWWTP. This value can differ from the actual (measured) incoming load (as requested in data block 4) to an UWWTP since Member States have the possibility (for practical reasons, **see also chapter 1.1.3 concept paper**) to overestimate the generated load of an agglomeration. The parameter in data block 3 indicates the connection ratio of the agglomeration to a particular UWWTP whereas the load entering the UWWTP is the actual load (usually measured or calculated) in the reference year.

- **Treatment levels** Concerning primary, secondary and more stringent treatment, each type of treatment technology available at one UWWTP should be reported. It is important to consider each treatment technology, the UWWTP is designed for and which is used.

*Example: An UWWTP has primary treatment during the whole year and disinfection (= more stringent treatment) only during summer. In this case, primary and more stringent treatment should be reported. In addition it should be indicated in the remark field that disinfection is taking place starting from month xxxx to month yyyy.*

Concerning more stringent treatment each treatment technology available at one UWWTP has to be reported (N, P, N&P, disinfection, etc.)



## Data block 5: Proposed data for future reporting: Details on collecting systems

*(to be discussed in 2007)*

### 1. What

This block comprises data that is needed to assess the application of best technical knowledge and measures regarding losses through leaks and storm water overflows (see Annex I A of UWWTD).

The request is addressed to large agglomerations, having the load above 10,000 p.e. as the impact to environment from the losses of the pollution load can be considerably significant. It furthermore comprises data that is needed for the assessment of the amount of the remaining waste water (besides collected through a collecting systems) addressed/collected through the individual systems or other appropriate systems (IAS) and whether it could be considered as complying with Art. 3 UWWTD.

The details regarding the waste water addressed through IAS starting from the threshold of 5% from the total load generated in an agglomeration will be also requested.

### 2. Why

#### **Losses through leaks and storm water overflows:**

Annex I A UWWTD requires that *“the design, construction and maintenance of collecting systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:*

- *volume and characteristics of urban waste water,*
- *prevention of leaks,*
- *limitation of pollution of receiving waters due to storm water overflows.”*

The Commission intends to use the collected data to decide whether more information needs to be provided for particular collecting systems in case there is an indication that the collecting system cannot be considered as complying with Article 3 and Annex I A UWWTD. Furthermore the combined sewer overflows (CSOs) could be very significant pollution sources, which should be considered when analysing pressures to receiving water bodies.

In addition, detailed information on collecting systems is important to make source apportionment by source category before treatment will take place. Moreover the EUROSTAT/OECD joint questionnaire (JQ) on inland waters also includes the needs of detailed statistical information to support water accounting (ref. Workshop on Water statistics 25-26 September 2006)

#### **Individual and appropriate systems:**

*Where the establishment of a collecting system is not justified either because it would produce no environmental benefit or because it would involve excessive cost, individual systems or other appropriate systems, which achieve the same level of environmental protection shall be used. (UWWTD Art. 3).* It should be noted in the context that the term “excessive cost” does not describe a static situation over years. Costs considered in one year as “excessive” (e.g. because of other investments in waste water collection or treatment) might be not excessive anymore in the following year. There are exceptional cases in which the building of a collecting system would be no additional benefit and would involve excessive costs also in the long-term (e.g. scattered areas where waste water is collected in watertight tanks and transported to UWWTPs).

To assess this and to identify those cases where the Member States have to provide additional information about the situation and plans to prove conformity with the UWWTD the

Commission needs aggregated data on IAS for the individual agglomerations. The information on the amount of waste water addressed through IAS and the details on which type of treatment is used for the waste water addressed through IAS in order to decrease the pollution to the receiving waters is also needed. This would enable to check the compliance of the Directive on collection and treatment of the remaining pollution load of the agglomeration. The detailed questions on treatment levels addressed through IAS is also of interest for EEA analysing pressures to the environment and for Eurostat aggregating on the National level and indicating the reappportionment of the load generated in the MS into several categories (e.g. treated, untreated, etc).

## 3. How

### 3.1 Management of leaks:

This information is required for all agglomerations with a generated load of more than 10,000 p.e.:

- Is a maintenance plan (quality assurance) in place? (Y/N)
- If the answer is yes, then more detailed information on the contents should be provided:
  - Is there a registration system for leaks in place? (Y/N)
  - What type of best technical knowledge / measures are used for building and maintenance of collecting system to prevent leaks (select from tick list):
    - Pressure tests
    - Regular video inspections
    - Other measures and explanation of these measures as textual information

### 3.2 Management of storm water overflows:

This information is required for all agglomerations with a generated load of more than 10,000 p.e.:

- Type of collecting system: combined / separated / both. In case it is combined or both the following detailed information should be provided:
  - How much raw sewage has been discharged through combined sewer overflows (CSOs) in the year reported: m<sup>3</sup>/y
  - How much raw sewage has been discharged through combined sewer overflows (CSOs) in the year reported: p.e.
  - Is best technical knowledge to limit pollution applied: (Y/N); in case of yes it should be indicated whether this is based on
    - Dilution rates and/or
    - Capacity in relation to dry weather flow and/or
    - Acceptable number of overflows per year. If this is the case the number of overflows occurred in the reporting year have to be indicated.

### 3.1 IAS:

There are no indicators described in the Directive for assessment of compliance of collecting systems with the requirements on best technical knowledge and IAS.

Detailed information on IAS is required in case the generated load addressed through IAS is more than 5% of the entire generated load of the agglomeration. In this case the following data has to be provided for each agglomeration:

- ID of agglomeration

- Name of agglomeration
- Rate (%) of the generated load of the agglomeration transported to UWWTPs by trucks (% of p.e.)
- ID of the UWWTP
- Name of the UWWTP
- Rate (%) of the generated load of the agglomeration treated in-situ (independent waste water treatment) achieving: primary treatment level (how much in % of generated load of agglomeration with primary treatment), secondary treatment level (how much in % of generated load of agglomeration with secondary treatment), more stringent treatment level (how much in % of generated load of agglomeration with more stringent treatment)

*Important note:* there is no need to report each individual independent treatment plant, but to provide aggregated numbers for each agglomeration.

## **Data block 6: Proposed data for future reporting: loads treated and discharged for each UWWTP, SoE, information to the public, statistics**

*(to be discussed in 2007)*

### **1. What**

Volume of waste water treated (m<sup>3</sup>), incoming and discharged loads (t) for each UWWTP in the reference year (calendar year).

### **2. Why**

#### **Incoming and discharged loads:**

Incoming and discharged loads are the basis for the calculation of the treatment plant performance, and thus for the conformity assessment, but also the assessment of the effort made to protect the aquatic environment.

For the State of the Environment (SoE) reporting, it is important to consider the pressures exerted on it (this is also the case for WFD for Art. 5 and for the River Basin Management Plans (RBMP)). The loads of the respective substances entering the natural aquatic environment are one important pressure, thus the outgoing average annual load is needed. It will also allow combining with the ambient monitoring system (river/lakes quality and flow) for integrated assessment; for example, to assess the pressure and the resulting measured impact.

It is also necessary to address not only the State of Environment but the complete DPSIR chain to link the situation to pressures and driving forces. In the absence of the exact quantity of substances released by each individual source in the sewer network, the incoming load is a good proxy that allows linking the pressure to the sources responsible. This in turn allows to use statistical or economic figures on these sources such as GDP or others, and to derive some eco-efficiency indicators. The WFD is also interested in such aspects with economic analysis required and the polluters-pay principle that clearly ask to link the pressure to the driving force. Having the incoming load instead of the % performance is sharper and easier to check, and allow directly to build pollution balance and other indicators at various geographical levels, including combining this with EPER data provided the link to the right UWWTP is made.

The information is also used for the Eurostat/OECD activities on statistical calculations on European wide level, for the public, NGOs and researchers to assess environmental status at the EU level as well as on a single Member State level. In practice this means that information provided under UWWTD-reporting does not need to be reported again to Eurostat or EEA (e.g. the Eurostat/OECD Joint Questionnaire on Inland Waters will be pre-filled with the data obtained via UWWTD-reporting before sending it to the Member States for completion).

Two main GIS reference systems are commonly used when addressing water aspects: the administrative system and the hydrographical system. Having the loads detailed at the urban waste water treatment plant level allows allocating them to the adequate GIS reference system depending on the main purpose of the assessment.

## Volume

It is one component of the overall water balance from abstraction to use and then discharge, used to assess the per capita water availability and associated indicators, and an important pressure parameter in the water cycle.

The volume is also needed to calculate the load, and should thus be available with no additional effort. It can be used to check conformity (calculation of an average concentration using the load, comparison with Environmental Quality Standards (EQS) or Emission Limit Values (ELV), etc.).

## 3. How

### Streamline with EPER/E-PRTR when providing data on loads:

*For the indication of whether the reported release and transfer data is based on measurement, calculation or estimation a simplified system with three classes identified with a letter code is required, referring to the methodology used to determine the data:*

- *Class M: Release data are based on measurements (“M”). Additional calculations are needed to convert the results of measurements into annual release data. For these calculations the results of flow determinations are needed. “M” should also be used when the annual releases are determined based on the results of short term and spot measurements. “M” is used when the releases of a facility are derived from direct monitoring results for specific processes at the facility, based on actual continuous or discontinuous measurements of pollutant concentrations for a given release route.*
- *Class C: Release data are based on calculations (“C”). “C” is used when the releases are based on calculations using activity data (fuel used, production rate, etc.) and emission factors or mass balances. In some cases more complicated calculation methods can be applied, using variables like temperature, global radiance etc.*
- *Class E: Release data are based on non-standardised estimations (“E”). “E” is used when the releases are determined by best assumptions or expert guesses that are not based on publicly available references or in case of absence of recognised emission estimation methodologies or good practice guidelines.*

*(Guidance Document for the implementation of the European PRTR, 31 May 2006)*

This will lead to three rows for each determinant in the parameters list, but will not add reporting burden as for data on individual plants, only one of these 3 categories will be reported depending most often on the size of the plant:

- ID of the UWWTP (this will be filled in automatically by the IT-tool)
- Name of the UWWTP (this will be filled in automatically by the IT-tool)
- Volume of waste water treated (m<sup>3</sup>/y)
- Methods used to determine the volume of waste water treated (m<sup>3</sup>/y): Measured / Calculated / Estimated
- Incoming loads of BOD<sub>5</sub>, COD, N-tot, P-tot (t/y): Measured / Calculated / Estimated/ Total (this will be filled in automatically by the IT-tool)
- Discharged loads of BOD<sub>5</sub>, COD, N-tot, P-tot (t/y): Measured / Calculated / Estimated/ Total (this will be filled in automatically by the IT-tool)

## Data block 7: Aggregated information on MS level: Sludge and treated waste water re-use

### 1. What

Concerning sewage sludge the Member States have to report the total sludge generated in the reference year and the different routes of re-use and disposal (all in tonnes of dry solids per year, t DS/y). The classification of routes is in accordance with Commission Decision 98/481/EEC concerning formats for the presentation of national programmes as foreseen by Article 17 UWWTD.

In case re-use of treated waste water is typical in the Member State, further information on the rate (%) of total waste water re-used and type of waste water re-use should be provided.

### 2. Why

Article 14 UWWTD states that '*sludge arising from waste water treatment shall be re-used whenever appropriate and that the disposal routes shall minimize the adverse effects on the environment*'. Discharge of disposal of sludge to surface waters by dumping from ships, by discharge from pipelines or by other means is forbidden since 31 December 1998. In order to assess the proper routes of re-use or disposal and the development of the different routes over years (e.g. for further policy decisions), data on amounts (t DS / year) of generated sludge and the different routes of their re-use or disposal is essential. This data can be provided on an aggregated basis for each Member State. The parameters to report on are identical with those of the Eurostat / OECD Joint Questionnaire on Inland Waters (in Table 6). Via WISE it will be possible for EU-Member States that the Commission pre-fills the Eurostat/OECD Questionnaire with data already provided to DG ENV under the UWWTD-reporting exercise. This would clearly reduce the reporting efforts and result in consistent data available for European Institutions.

Article 12 UWWTD states that '*treated waste water shall be re-used whenever appropriate and that disposal routes shall minimize the adverse effects on the environment*'. Due to water scarcity re-use of waste water is typical in some Mediterranean countries. Where this is the case, the Commission wants to have data available to decide whether further information is required to prove that possible adverse effects on the environment are minimised. With this reporting exercise the Commission has an intention to find out at the EU level how much of waste water has been re-used. This information gives an estimation of a scale of water scarcity. Furthermore the information is useful to assess the use of water resources and which part of the resources could be used in a sustainable way.

### 3. How

All information requested to report are aggregated data per Member State

#### Sewage sludge (all in t DS/y):

- Yearly production of sludge
- Reported Year
- Re-use of sewage sludge
  - Soil and Agriculture
  - Others
- Disposal of sewage sludge
  - Landfill
  - Incineration
  - Others

- Discharge of sewage sludge into surface waters (if any):
  - Pipelines
  - Ships
  - Others

**Re-use of waste water:**

- Rate of treated waste water re-used (% of total volume treated)
- Type of re-use (tick-list):
  - Agriculture
  - Industry
  - Others(+ explanation as text)
- Remarks

For the purpose of the UWWTD “sewage sludge produced” refers to the quantity of decanted matter resulting from waste water treatment, including sludge treatment (in the UWWTP or a central sewage treatment centre. Depending on the methods of water treatment and sludge treatment such as digestion, filterpressing etc., the concentration of dry solids can be very variable. For this reason only the final amount of dry solids that are to be disposed of are requested.

**In general data on sewage sludge has to be reported with the reference year 2005. If more recent data is available, this information is highly appreciated and should be reported** indicating the reference date in the remark field.

## Data block 8: Proposed data for future reporting: Food processing industry

*(To be discussed in 2007)*

### 1. What

For each individual plant concerned by Article 13 UWWTD (food-processing industries with more than 4,000 p.e. discharging directly into surface waters) data on loads and the date of compliance are required to report.

### 2. Why

Article 13 UWWTD states that Member States shall ensure that by 31 December 2000 biodegradable industrial waste water from plants belonging to the industrial sectors listed in Annex III which does not enter urban waste water treatment plants, and have stand-alone treatment facilities, before discharge to receiving waters, shall respect conditions established in prior regulations and/or specific authorisation by the competent authority or appropriate body. The article covers the plants having the organic load of more than 4,000 p.e. .

To indicate and assess stressors to the environment in sense of on the organic pollution load generated by food processing industry, as this industry is one of the biggest generator of the organic pollution being released into receiving waters. It shall be underlined that sometimes the question about overlapping issues could arise as IPPC is dealing with large industries and reporting under IPPC covers only part of treatment facilities for this type of industries required to be regulated by UWWT Directive. In order to control and assess the significance of the organic pollution generated by these point sources and to check the measures taken by the Member States the inventory of all these industries indicating the number and the status and other important parameters will be useful to know. This could help to assess a significance of the pollution load generated by this industry-branch and released to receiving waters and to forecast measures to be taken to address pollution at the source.

### 3. How

All data are requested to report for each individual plant:

- ID of food-processing industrial plant: [**should be identical with ID reported under EPER / E-PRTR**]
- Name of plant: [**should be identical with ID reported under EPER / E-PRTR**]
- Industrial sector of food-processing: according to Annex III UWWTD (should be selected from the list provided in the IT-tool, the list is identical to the list in annex III of the Directive)
- Organic load (p.e.)
- Respecting conditions under Art. 13: tick-list (in case it is ticked, the conditions under Art. 13 are respected)
- Date of compliance (dd/mm/yy)
- Remarks: Additional information if this is needed. Remark fields will not be considered in the automatic compliance check, however it would be included into the Commission reports at EU level presenting the status of pollution generated in this particular sector as it could be also considered as one of the reasons for eutrophication of receiving waters.