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# **URBAN WASTE WATER TREATMENT DIRECTIVE**

## **TOWARD A NEW INFORMATION SYSTEM SIIF**

**(Structured Implementation and Information Framework)**

### **Background document Thematic Aspects**

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# 1 Introduction

The thematic aspects document is a background document of the SIIF concept paper and should serve as basis for discussion about the parameters proposed to be part of the reporting system built to meet the SIIF criteria, at both EU and Member State (MS) levels. The names and features of the parameters are taken from the current UWWTD Art. 15(4)-reporting system. This document does not represent nevertheless an INSPIRE-compliant presentation of the data model, which will only be developed after (basic) agreement on the contents for the new reporting system.

By “reporting system,” we intend to mean all aspects in relation to collection, processing, assessment and active dissemination of information regarding the implementation of provisions laid down in the UWWTD. The SIIF concept attaching the highest importance to the information on compliance, the new reporting system will have to ensure that data allowing the assessment of compliance is properly collected and processed.

There are several data flows on UWWTD- related issues at EU-level. For the elaboration of the new reporting system, the dataset covered by the UWWTD Questionnaire (current reporting system under UWWTD Art. 15(4)-) is considered the starting point. This dataset was jointly agreed between the European Commission (EC) and the Member States (MS) in 2006, and these parameters cover core information to assess the implementation of the Directive. Moreover, most MS have already developed their national UWWTD- databases in accordance with the data model and parameter specifications of the current reporting system. It is now a successful reporting exercise.

In the three reporting exercises elaborated under Art. 15(4) since 2006 it became clear that the data model still has some short-comings. The redefinition of the reporting system will therefore have to address these shortcomings in addition to incorporating the new elements in the SIIF concept. Therefore, within this process, existing parameters have been thoroughly assessed to ascertain whether they are truly needed to conduct the legal compliance assessment, or if any parameter is missing or, on the contrary, if any parameter is redundant or irrelevant.

The decrease of administrative burden is one of the principles of the SIIF concept. To this end, the proposed draft data model intends to diminish the frequency of reporting for compliant situation.<sup>1</sup> The UWWTD SIIF Pilot Exercise is actually contributing to the systematic identification of the nature, scope and frequency of obligations in legislation to identify possibilities for reduction.<sup>2</sup>

In this particular case, the promotion of more efficient reporting systems and processes is proposed, while keeping the quality, accuracy and reliability of the reported information.

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<sup>1</sup> See the EU Standard Cost Model at:

[http://ec.europa.eu/dgs/secretariat\\_general/admin\\_burden/eu\\_scm/eu\\_scm\\_en.htm](http://ec.europa.eu/dgs/secretariat_general/admin_burden/eu_scm/eu_scm_en.htm)

<sup>2</sup> See COM(2013)685 at:

[http://ec.europa.eu/commission\\_2010-2014/president/news/archives/2013/10/pdf/20131002-refit\\_en.pdf](http://ec.europa.eu/commission_2010-2014/president/news/archives/2013/10/pdf/20131002-refit_en.pdf)

## 2 Draft data model: the context

### 2.1 Sources of information

The definition of the draft UWWTD SIIF contents and data model took into account the following documents:

- UWWTD Art: 15(4)- reporting: List of UWWTD parameters and data dictionary<sup>3</sup>
- Common formats for reporting under UWWTD Art. 16 and Art. 17<sup>4</sup>
- Preliminary list of parameters required to be extracted from the Waste waterbase to provide an overview of the compliance status of agglomerations (the so-called SIIF Template, an excel-table and corresponding explanatory notes presented by the EC in the UWWTD SIIF workshop on 12 December 2012 in Brussels)
- Good practice examples as regards SIIF principles<sup>5</sup> identified in the screening of the web-sites related to UWWTD from EU-27 MS

### 2.2 The current reporting system under Art. 15(4)

As can be seen from the documents above, namely the '*List of UWWTD parameters for Questionnaire 2011*', reporting under UWWTD Art. 15(4), requires at present that the values for ten blocks of parameters are provided:

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
6. Additional parameters: loads treated and discharged for each UWWTP, SoE, information to the public, statistics
7. Aggregated information on MS-level: sludge and treated waste water re-used
8. Additional parameters: Food processing industries
9. Additional parameters: Data for pre-filling of Eurostat/OECD Joint Questionnaire on Inland Water

The provision of data for parameters listed in the blocks 0-4, 7 and partly 5 (information on Individual and other appropriate systems) is considered **compulsory**. On the other hand,

<sup>3</sup> Available at: [http://forum.eionet.europa.eu/x\\_wise-reporting/library/treatment\\_directive/uwwtd\\_request\\_2011/supporting\\_documents](http://forum.eionet.europa.eu/x_wise-reporting/library/treatment_directive/uwwtd_request_2011/supporting_documents)

<sup>4</sup> Available at: [https://circabc.europa.eu/sd/a/f471e3e5-c416-4a04-bc02-abb74441626d/Art16%20format\\_99.pdf](https://circabc.europa.eu/sd/a/f471e3e5-c416-4a04-bc02-abb74441626d/Art16%20format_99.pdf) and <https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp>

<sup>5</sup> 'Structured Implementation and Information Framework (SIIF) - Developing a pilot for the Urban Waste water Treatment Directive' (version as of 4/12/2012)



MS are invited on a **voluntary basis** to provide information indicated in the data blocks 5 (management of leaks and storm water overflows), 6, 8 and 9.

The data for the blocks of parameters listed above, can also be grouped as follows:

- **Master data:** These data describe the UWWTD reference elements (i.e. receiving areas, agglomerations, UWWTPs, discharge points, food-processing industries) and establish the links between them. In addition, the basic data of the reporting process are identified as master data. These parameters have to be reported by all MS, irrespective of the expiration of legal deadlines. Master data are explicitly indicated in the data dictionary of the existing UWWTD Art. 15(4)- reporting.
- **Mandatory parameters:** Mandatory parameters comprise parameters relevant for the legal compliance assessment and for a comprehensive understanding of the UWWTD- implementation in a MS. They cover data, which are either based on the UWWTD text or justified by acceptance of the UWWTD Committee.

Parameters in blocks 0-4, 7 and partly 5 (information on Individual and other appropriate systems) are mandatory.

- **Voluntary parameters.** The parameters covered in data blocks 5 (management of leaks and storm water overflows), 6, 8 and 9 are indicated as voluntary parameters. They include information necessary for agreed functionalities like interoperability and streamlining across data flows (e.g. E-PRTR IDs for UWWTPs > 100,000 p.e.) and information available in MS and giving added value at EU-level (e.g. discharged loads of BOD<sub>5</sub>, COD, N<sub>tot</sub> and P<sub>tot</sub>).

### 3 Draft data model: main changes proposed

Novelties in relation to contents and data exchange functionalities of the new UWWTD Art. 15(4) reporting system were discussed between the MS and the EC and will have to be tested during 2014 through the SIIF pilot test and 8<sup>th</sup> reporting exercises. MS will have the possibility to use the new article 17 template with the forward looking aspects. This document only intends to present the main changes proposed for the reporting system, if the SIIF concept is adhered to.

The existing set of parameters (about 230) has been analysed seeking for potential improvements, namely to avoid shortcomings and redundancies.

The new data set proposed has common (for all MS) and optional parts (for MS that join the SIIF exercise). The new common dataset will have almost the same number of mandatory parameters but more clear and useful. It is proposed that For the MS using the SIIF exercise and the optional part of the new data set, there will be an increase of parameters and frequency for not compliant situations (to incorporate forward looking and planning aspects). Even if the reactions of MS are reserved for the possibility for them to decrease the frequency of reporting for compliant situations, this possibility has to be preserved in a middle and long term perspective. Actually, when all agglomerations will become compliant, changes of the database will become minor and some of the MS will appreciate the possibility to have more time for other topics regarding the urban waste water field. The question still under discussion is how to make sure that the information is checked at least every second year to ensure that there are no major changes (possibly by adding a "no change" button in the data model).

### 3.1 Thematic changes

The proposed modifications can be summarised as follows:

- Modifications of parameters of the currently used dataset under Article 15(4)-
  - proposal for new mandatory and/ or voluntary parameters for the removal of irrelevant and/or redundant parameters.
  - proposed changes of the status (mandatory/ optional parameters)
  - proposed for new mandatory/voluntary parameters to suppress shortcomings of current data model (e.g. compliance status on a specific reference date)
  - proposed changes for assessment methods of existing parameters,
- Incorporation of a new "compliance" datablock automatically calculated with the other data,
- Incorporation of new forecasted mandatory/voluntary data for MS using the SIIF concept for the forward looking aspects measures (dates,related costs...) to achieve and/or maintain compliance with the UWWTD,

The second and third aspects are intended to be covered in different modules, which could be flexibly linked to the current UWWTD Article 15(4)-dataset. Figure 1 gives an overview of the three thematic modules of the UWWTD SIIF at EU-level and in addition presents the relation (1:1- relation versus 1:n- relation) between the different parameter blocks, which reflect the main reference elements of the UWWTD (i.e. receiving areas, agglomerations, UWWTPs, discharge points, food-processing industries)

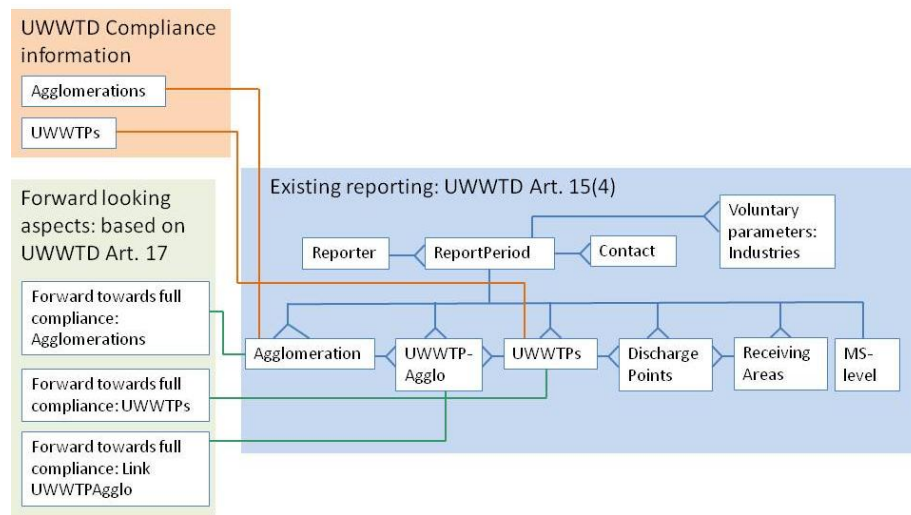
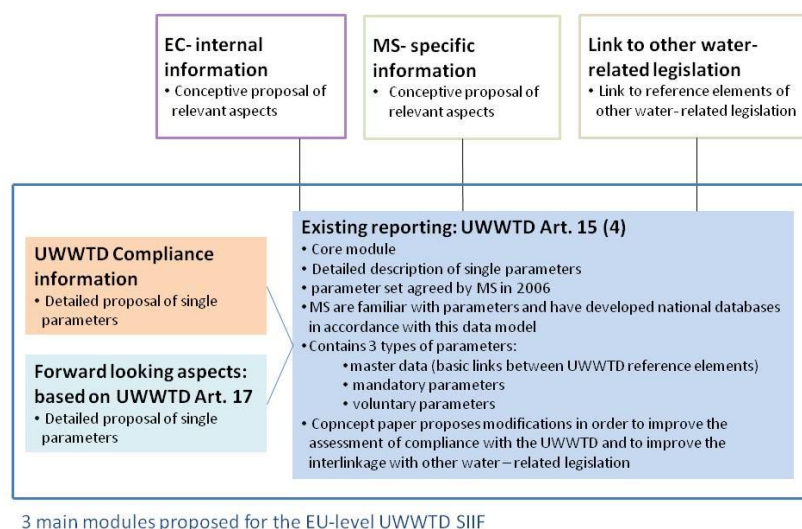


Figure 1. Proposal for three thematic modules of the UWWTD SIIF at EU-level

This document also gives some first ideas on further information, which could be linked to the UWWTD SIIF on EC- and MS-level and describes the interlinkages to other water-related legislation (see Figure 2).







*Figure 2. Link of UWWTD SIIF to information relevant on EC- and MS-level and to other water-related legislation*

## 3.2 Functions in centralized and decentralized approaches

In line with SEIS and SIIF principles, the information should be collected and processed at the administrative level that is the closest to the environmental reality it describes. It is assumed that there will be, in broad terms, two main kinds of processes: centralised (i.e. the information is collected and sent to the EC, which takes care of all processing, from QA/QC to ensuring the active dissemination) and decentralised (i.e. the information is collected, processed and the results of the assessment are actively disseminated at national level).

The information regarding the implementation of provisions laid down in the UWWTD would continue to be collected by Member States. If eventually accepted, this information will be made up of the data for the parameters listed below in this document (both mandatory and optional).

For countries having chosen the centralised approach, all these data will be reported to the EU level, which would take care of the processing, assessment and dissemination. For these countries, reporting obligations would be considered met if the information is sent to the EC services with the frequency sought (see below).

If the decentralised approach applies, then the Member States concerned will process the information and conduct the compliance assessment themselves. The EC is to provide technical assistance to the countries applying the decentralised approach (QA/QC and compliance assessment routines; data bases templates and formats, etc). In addition, the countries concerned will update the information contained in their nodes. For these countries, reporting obligations would be considered met if the underlying information is put at the disposal of the EC with the frequency sought in the table in the Annex.

In this case, the active dissemination could be ensured by the EU node or by the national node or by both.

### 3.3 Updating frequency and implementation calendar

In addition to the main changes in the data set mentioned above, it is proposed that the frequency of updating the values for the parameters concerned is made dependant on:

- The **nature of the information**. The more stable is the information (e.g. name of the agglomeration, coordinates of the discharging point, etc), the lower the updating frequency: they should only be changed when needed. Or the other way around: the absolutely new information (e.g. a new treatment plant which has started to work), should be reported as soon as possible. For parameters denoting a "situation" (i.e. treatment performance of plants which have achieved compliance), new fixed deadlines, longer than current ones, could be defined.
- The **compliance status** of the agglomerations or treatment plants concerned. Looking forward aspects are amongst those that are considered essential to ensure the proper information of the public on the level of implementation of the UWWTD. It is therefore proposed that MS collect, process and report information on the measures taken to reach compliance **for those agglomerations and treatment plants that are still non compliant** (in particular those within a PIA ). As soon as the compliance situation is reached, the corresponding information could be updated and published.

While it is now possible to report different years depending from the choice of each MS (year 2011 or 2012 for the next reporting exercise), this difference of reference dates create some difficulties to publish benchmarking at the EU level. The Commission propose to harmonize the reference date with the same deadline for each country.

The proposed situations are summarised in the table below

Reference Date	End N Deadline 31 December N+1	End 2N+1 Deadline 31 December N+2	End N+2 Deadline 31 December N+3	End N+3 Deadline 31 December N+4	End N+4 Deadline 31 December N+5
<b>Article 15(4)</b>	All information to be updated. Encouragement to fulfil voluntary parameter if needed for other relevant directive	Information in link with forward looking aspect	All information to be updated. Encouragement to fulfil voluntary parameter if needed for other relevant directive Still under discussion for compliant agglomeration,: possibility to add a "no major change since last reporting" parameter not to be able to change all the information of this agglomeration and to give the same information than two years before	Information in link with forward looking aspect	All information to be collected. Encouragement for MS to fulfill voluntary parameter if needed for other relevant directive
<b>UWWTD compliance information Article 15(4)</b>	updated each year	updated each year	updated each year	updated each year	updated each year
<b>National report Article 16</b>	All information to be collected. Online reports or national website with statistics allowed for countries using a <i>decentralized</i> approach.		All information to be collected. Online reports or national website with statistics allowed for countries using a <i>decentralized</i> approach.		All information to be collected. Online reports or national website with statistics allowed for countries using a <i>decentralized</i> approach.
<b>Implementation plans Article 17 – forward looking</b>	forward looking aspect on agglomeration, UWWTPs and sensitive areas updated each year until the compliance is	forward looking aspect on agglomeration, UWWTPs and sensitive areas	forward looking aspect on agglomeration, UWWTPs and sensitive areas updated each year until the compliance is	forward looking aspect on agglomeration, UWWTPs and sensitive areas updated each year until the compliance is	forward looking aspect on agglomeration, UWWTPs and sensitive areas updated each year until the compliance is



<b>aspect</b>	reach. It could be appreciated to have a updating each six months for dates	updated each year until the compliance is reach. It could be appreciated to have a updating each six months for dates	reach	reach	reach
<b>Other PRODUCTS</b>	EEA SIIF Viewer updated National SIIF Viewer updated	EEA SIIF Viewer updated National SIIF Viewer updated	EEA SIIF Viewer updated National SIIF Viewer updated	EEA SIIF Viewer updated National SIIF Viewer updated	EEA SIIF Viewer updated National SIIF Viewer updated

This proposal has to be crossed with the other water reporting exercises in link with the Blueprint objectives to harmonise water directives reporting cycles. The possibility of having a reporting each year for the not compliant situation or forward looking aspect and each three years for the whole information in link with the 6 year cycle of the WFD and MSFD has to be considered.

## 4 Draft of the common data model: detailed changes proposed

The following chapters describe the proposed modifications for each table of the data dictionary.

### 4.1 Tables Reporter, Report Period and Contacts

In the current Art. 15(4)- reporting the data block 0 (General information about the report and contact details) is divided into three different tables, giving information on

- the reporter (= Member State)
- the report period (one report ID should be established for one reference year)
- contact details (contact details of the person(s) responsible for reporting under Art. 15(4) in a Member State)

The reason for this division into three tables is the 1:n– relation between the reporter and the report period (i.e. in the UWWTD- database there can be several reports for each MS) and the 1:n- relation between the report and the contact details (i.e. for one report there can be several contact persons).

#### 4.1.1 Table Reporter

Proposal to delete three parameters:

Fieldname	Label/Explanation	Explanation
rptMStateValue	Member State	Parameter can be automatically filled by ' <i>rptMStateKey</i> '
rptCulture	Culture code	Only relevant for import/ export functionality
rptFormRA	Indication of type of receiving area	Only relevant for import/ export functionality

#### 4.1.2 Table ReportPeriod

Proposal to delete one parameter:

Parameter ( <i>Fieldname</i> )	Explanation
Reported Year ( <i>repReportedPeriod</i> )	Parameter can be automatically filled by ' <i>repSituationAt</i> '

### 4.1.3 Table Contacts

Proposal to add one optional parameter

Parameter ( <i>Fieldname</i> )	Explanation
National sanitation website	To be able to make an hyperlink at EU level

Proposal to delete one parameter:

Parameter ( <i>Fieldname</i> )	Explanation
Fax ( <i>conFax</i> )	The Fax-number is seldom used

#### Explanatory note to this table:

The contact details refer to the person/ institution of a MS, which is responsible for reporting under Art. 15(4). It does not refer to contact details for single reference elements of the UWWTD (e.g. the authority responsible for the permit of an UWWTP or the institution operating an UWWTP).

## 4.2 Table ReceivingAreas

Proposal to delete three parameters:

Parameter ( <i>Fieldname</i> )	Explanation
Indication of application of Art. 5(4) ( <i>rcaArt54Applied</i> )	In case a MS applies Art. 5(4), the starting date of application of Art. 5(4) ( <i>rcaDateArt54</i> ) has to be provided. The indication of this parameter makes the mere indication of application of Art. 5(4) redundant
Root of corresponding GIS- data file	Not relevant as the link between receiving areas reported via tabular data and GIS-files on sensitive areas can be established via the ID of the area (no need for the root of corresponding GIS- data file)
Last date of designation or revision/ in case Art. 5(8) and 5(2-3) is applied: Starting date of application of Art. 5(2-3) ( <i>rcaDateDesignation</i> )	This parameter will be replaced by other parameters (see proposal for new parameters)

For a better understanding of the different deadlines and parameters in link with the designation of each sensitive area, the proposal is to add nine parameters as mandatory ones.



Parameter ( <i>Fieldname</i> )	Explanation
ID of the successor (historical data management)	<p>Historic data management/ object lifetime management has been explored by the WISE CIS Guidance No 22<sup>6</sup> (incl. examples described in Appendix 9) and the state based concept of object lifetime management has already been partly implemented in the current UWWTD Art. 15(4)- reporting. For each of the UWWTD reference elements (i.e. receiving areas, agglomerations, UWWTPs, discharge points, food- processing industries) the data model under UWWTD Art. 15(4) foresees the indication of the status (active/ inactive) at the reported reference date. The second important element for historic data management had however not yet been implemented in the data model. In case an 'old' reference element was replaced by another one, the successor of the 'old' element should be additionally provided. The existing data model of Art. 15(4)- reporting does not yet foresee this possibility in terms of an additional parameter ('ID of successor') for all UWWTD reference elements.</p> <p>The life cycle rules (e.g. in which situations should a new identifier be assigned) need to be discussed and agreed between the MS and the EC for all UWWTD key elements.</p>
Date of designation: Art. 5(2,3) – criterion a (N)	<p>In the current Art. 15(4)- data model, the available parameter '<i>rcaDateDesignation</i>' does not allow the clear identification of treatment requirements for agglomerations discharging into sensitive areas or their catchments at a specific reference date. Especially in EU-15 MS, which have reviewed the sensitive areas and/ or their catchments since the first date of designation, it is very difficult to trace back for the EC, when the treatment requirements for each criterion have to be established in each agglomeration for the first time. In the past years the EC tried to obtain this information from the historical data assessment in the context of the legal compliance assessment (i.e. GIS-overlay of discharge points and GIS-files of receiving areas obtained in the context of reporting under Art. 15(4)).</p> <p>From the commenting phase to the draft UWWTD Implementation report in recent years it became clear, that the results of the historical data assessment did not always define the treatment requirements correctly.</p> <p>Difference to parameter 'Date of relevant deadline of UWWTD/ Transition period for Art. 3, Art. 4, Art. 5 and Art. 6' in the table Agglomerations: These parameters only give the date of the UWWTD or the Transition Period, but do not reflect reviews of Sensitive Areas and their Catchments. The parameters 'Date of designation...' gives the MS the possibility to clearly indicate the date of designation for each criterion</p>
Date of designation: Art. 5(2,3) – criterion a (P)	
Date of designation: Art. 5(2,3) – criterion b	
Date of designation: Art. 5(2,3) – criterion c	
Starting date of application of Art. 5(2,3) – criterion a (N)	<p>These parameters are relevant in case of Court rulings against MS. In the past several MS were facing the following difficulty: A sensitive area was designated for criterion a (P) e.g. in 2006, but the EC was of the opinion, that due to the high P-sensitivity, the area should have already been designated in 1998. Due to litigations with the EC, the designation date would have been 1998, which means that the start of application of the sensitivity criterion a (P) would be 2005 (i.e. 1998 + 7 years transition period according to UWWTD Art. 5(7)).</p>
Starting date of application of Art. 5(2,3) - criterion a (P)	
Starting date of application of Art. 5(2,3) - criterion b	
Starting date of application of Art. 5(2,3) - criterion c	

<sup>6</sup> Available at: <https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp>

### Explanatory note to this table:

For the Remarks- field it could be a very interesting information to provide the number/ title of (or even the link to) the national legal act, which define a sensitive area and/ or its catchment. There will be a very low update of this information only when new sensitive areas are designated or when there is a merge of several sensitive areas

## 4.3 Table Agglomerations

Proposal to delete two parameters:

Parameter ( <i>Fieldname</i> )	Explanation
Date of the relevant deadline of UWWTD or Transitional Period ( <i>aggPeriodOver</i> )	Parameter will be replaced by other parameters (see proposal for new mandatory parameters)
When will the total generated load of the agglomeration be collected through collecting systems or addressed through IAS? ( <i>aggForecast</i> )	Parameter will be replaced by other parameters (see proposal for forward looking aspects)

Proposal to shift three parameters from the table Agglomerations to the table MSlevel and to simplify:

Parameter ( <i>Fieldname</i> )	Proposed future assessment
What are the measures based on: Dilution rates ( <i>aggDilutionRates</i> )	What are the measures based on: Dilution rates, capacity in relation to dry weather flow, acceptable number of overflows per year
What are the measures based on: Capacity in relation to dry weather flow ( <i>aggCapacity</i> )	
What are the measures based on: Acceptable number of overflows per year ( <i>aggAccOverflows</i> )	

For a better understanding of the different deadlines, the proposal is to add nine mandatory parameters :

Parameter	Explanation
ID of the successor (historic data management)	See explanation for 'ReceivingAreas'  Throughout the last UWWTD reporting exercise there was the proposal from one MS, that besides the status 'active' and 'inactive', there should be an additional status called 'temporarily inactive' for agglomerations (and consequently for the UWWTPs and discharge points connected to these agglomerations). This status would be relevant for agglomerations, whose size drops temporarily below 2,000 p.e. (this might be the case, if the size of agglomerations is determined by the incoming load to the connected UWWTP(s)). In fact, it is important, that these agglomerations do not disappear from the reporting and that the same requirements are applied for these agglomerations, as also applied for agglomerations $\geq 2,000$ p.e..



Parameter	Explanation
Date of the relevant deadline of UWWTD or Transitional Period – Art. 3/ Art. 4/ Art. 5/ Art. 6	<p>This issue refers to 4 new parameters in total.</p> <p>One shortcoming of the current Art. 15(4)- reporting concerns the fact that there is only one parameter related to the <i>Date of relevant deadline of UWWTD/ Transitional Period</i> (parameter 'aggPeriodOver' in the table T_Agglomerations). The Accession Treaties of several EU-12 MS define different deadlines / transition periods for Art. 3/ Art. 4/ Art. 5 (and/ or Art. 6) for one agglomeration (e.g. SK). Therefore it is important to differentiate this parameter for the four different Articles. For these parameters, EU-15 MS should provide the date of the Directive and EU-12 MS should provide the date of the Transitional Period.</p>
Date of compliance for Art. 3/ Art. 4/ Art. 5/ Art. 6	<p>This issue refers to 4 new parameters in total.</p> <p>One shortcoming of the current Art. 15(4) is the lack of date of compliance of each agglomeration to know if the infrastructure is in place with the performances requested or when it will be in place. One possibility is to indicate the date of the compliance. With this information it is directly possible to know the compliance of the agglomeration.</p> <p>If the agglomeration is not compliant, the new module on 'Forward looking aspects' should be filled.</p>

MS have to fill the database with this new data but when it is done, the frequency of change will be very low (e.g, when a new treatment plant have to be build every thirty or forty years) in case of new non-compliance situation. With this information it will be possible to automatically fill the compliance block.

Proposal to add three voluntary parameters:

Parameter	Explanation
Name of the municipalities/ communes of this agglomeration	<p>This parameter represents very valuable information for all persons and institutions interested in the UWWTD. This parameter will help to enhance transparency between the definition of UWWTD-agglomerations and municipalities in a MS. The relation between the ID of UWWTD-agglomerations and municipalities/ communes is m:n. The implementation of this parameter in the future SIIF could be done via local administrative units (LAU), which are basic components of the NUTS- regions and which are available from EUROSTAT (LAU2-codes referring to municipalities). With the new IT tools it is possible to locate an object with the city code. The X,Y information could be replaced by the name and city code of the main municipality.</p>



Parameter	Explanation
Population (inhabitants) of an agglomeration	<p>The core element of the UWWTD is the agglomeration and its size in population equivalents (p.e.). However, the number of inhabitants is one relevant parameter, which influences the definition of the size of an agglomeration. MS use different approaches to define the size of agglomeration (e.g. threshold value as regards the inhabitants /m<sup>2</sup>, incoming load to the UWWTP in terms of p.e.)</p> <p>This parameter could serve as background information for the EC to check, which percentage of the population is covered in agglomerations <math>\geq 2,000</math> p.e. and to check, whether considerable parts of the national population are covered by the UWWTD (or whether considerable parts are missing). The parameter would also allow for a better understanding of the UWWTD amongst the public (as the public is familiar with the term 'inhabitants', but not the term 'p.e.'). Including the population/ number of inhabitants into the dataset will help to establish a closer link between the UWWTD dataset and the OECD/ Eurostat Joint Questionnaire on Inland Waters (JQ)/ Eurostat Regional Statistical Questionnaire (REQ), as both statistical questionnaires cover information on the national population. However, the discrepancy that the scope of JQ and the REQ is the entire national population and that the scope of the UWWTD are agglomerations <math>\geq 2,000</math> p.e. will remain.</p> <p>The definition of the population/ inhabitants within an agglomeration is not an easy task. Therefore, it will be required to develop guidelines/ best practice examples, how this parameter could be defined (e.g. how to deal with secondary homes, permanent versus seasonal population, etc.).</p> <p>An up-date of information every 4 years could be sufficient.</p>
Agglomeration national Internet link	See the explanation of the "UWWTP national Internet link parameter"r (chapter 4.5)

Proposal to change the status/ assessment of nine parameters. The consequences of the proposed changes have to be evaluated more deeply within the 8<sup>th</sup> reporting exercise before the final decision:





Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future assessment
Comments on significant changes of the generated load compared to the previous reported load ( <i>aggChangesComment</i> )	only in case <i>aggChanges</i> = "Y" and if there is a increase or a decrease of 20% of the load	<p>Mandatory parameter if :</p> <ul style="list-style-type: none"> <li>there is a increase of more than 20% <b>and</b> if the load exceeds the size of the treatment plant,</li> <li>there is a decrease of more than 30%, -</li> <li>there is a change of threshold and treatment objectives (2,000 p.e, 10,000 p.e, 15,000 p.e, 100,000 p.e)</li> </ul>
Rate of generated load of agglomeration addressed through IAS (% of p.e.) ( <i>aggC2</i> )	more detail is needed for agglomerations $\geq 100,000$ p.e., where the fraction of total generated load treated by IAS is $\geq 2,000$ p.e.	more detail is needed for agglomerations., where the fraction of total generated load treated by IAS is $\geq 10\%$ (see parameter <i>aggPercPrim/Sec/StringentTreatment</i> ) with a progressive implementation (each two years) For big agglomerations it is very easy to have a value of more than 2.000 p.e. even if it represents a very small part of the pollution generated (0.2 % of the load for an agglomeration of 1 million p.e). On the contrary, for smaller agglomerations which discharge treated and untreated water on small rivers it is important to know this information because a bad operating of IAS can be the purpose of a pollution. This rate will decrease with the building of new collecting systems.
Rate of generated load of agglomeration not collected through collecting systems and not addressed through IAS (% of p.e.) ( <i>aggPercWithoutTreatment</i> )	Not compliant if the rate is $> 2\%$ or $> 2,000$ p.e	Not compliant if the rate is $> 2\%$ . In case of a rate $> 2\%$ the parameters of the new block of data "forward looking aspects" should be filled. Same reason as before

Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future assessment
IAS - in situ and/ or transported to UWWTPs by trucks: How much in % of generated load of agglomeration with primary/ secondary/ more stringent treatment ( <i>aggPercPrim/Sec/StringentTreatment</i> )	Mandatory parameter for agglomerations $\geq 100,000$ p.e., where the fraction of total generated load treated by IAS is $\geq 2,000$ p.e.	Mandatory parameter for agglomerations, where the fraction of total generated load treated by IAS is $>10\%$ .
Type of collecting system: combined, separated or both? ( <i>aggSewageNetwork</i> )	Voluntary parameter	Remain voluntary parameter, but with an encouragement to fulfil this data as it is important to know the influence of rains on agglomerations with a progressive implementation
How much raw sewage has been discharged through combined sewer overflows (CSOs) in the year reported: m <sup>3</sup> /y ( <i>aggSewerOverflows_m3</i> )	Voluntary parameter	Remain voluntary parameter, but with an encouragement to provide these data (if monitored) for other uses. If fulfilled, a correct frequency of updating could be each four years Important parameter to be able to quantify the untreated UWW discharges. Implementation of WFD, MSFD, BWD, protection of shellfish and water activities... e.g. With this information it will be possible to quantify the reduction of litter discharged through the combined sewer overflows.
How much raw sewage has been discharged through combined sewer overflows (CSOs) in the year reported: p.e. ( <i>aggSewerOverflows_pe</i> )	Voluntary parameter	Remain voluntary parameter, but with an encouragement to fulfil this data if monitored. If fulfilled a correct frequency of updating could be each four years If the raw sewage represents more than 2% of the total generated p.e., the agglomeration is not compliant Art. 3. Important parameter to be able to quantify the untreated UWW discharges. Implementation of WFD, MSFD, BWD, protection of shellfish and water activities...

Proposal to add two parameters from the table Agglomeration Add\_on to the table Agglomerations as voluntary parameters:



- No of inhabitants served by IAS per agglomeration (*aggInhabitantsConnectedIAS*)
- No of inhabitants without treatment per agglomeration (*aggInhabitantsWithoutTreatment*)

#### 4.4 Table UWWTPAgglos

Proposal to delete one parameter:

Parameter ( <i>Fieldname</i> )	Current status/ assessment	Explanation
Rate of generated load of agglomeration transported to this UWWTP by trucks (%) ( <i>aucPercC2T</i> )	Mandatory parameter for agglomerations $\geq 100,000$ p.e., where the fraction of total generated load treated by IAS is $\geq 2,000$ p.e.	It is more useful to have information about the rate of the entering load of the treatment plan which can disturb the operating. Proposal in the UWWTP block

#### 4.5 Table UWWTPs

Proposal to delete 22 parameters:

Parameter ( <i>Fieldname</i> )	Explanation
In cause of failure: Major accidents ( <i>uwwAccidents</i> )	Major accidents are not relevant for non-compliance
In cause of failure: Further information on cause of failure ( <i>uwwInformation</i> )	Main reasons for non-compliance are bad design or bad management, therefore, this parameter is considered as not relevant
More stringent treatment ( <i>uwwOtherTreatment</i> )	Redundant parameter
Explanation for closing of the UWWTP/What happened with the wastewater since last reporting exercise ( <i>uwwHistorie</i> )	Will be covered in the section 'Forward looking aspects' and the ID of successor
Other type of more stringent ( <i>uwwOther</i> )	Redundant parameter
Incoming loads BOD-tot Calculated ( <i>uwwBODIncomingCalculated</i> )	Will be replaced by only one parameter for incoming and discharged load of BOD, COD, Ntot and Ptot, each and one parameter, indicating the method used to determine the load (measured, calculated, estimated)
Incoming loads BOD-tot Estimated ( <i>uwwBODIncomingEstimated</i> )	
Incoming loads COD-tot Calculated ( <i>uwwCODIncomingCalculated</i> )	
Incoming loads COD-tot Estimated ( <i>uwwCODIncomingEstimated</i> )	
Incoming loads N-tot Calculated ( <i>uwwNIncomingCalculated</i> )	
Incoming loads N-tot Estimated ( <i>uwwNIncomingEstimated</i> )	
Incoming loads P-tot Calculated ( <i>uwwPIncomingCalculated</i> )	
Incoming loads P-tot Estimated ( <i>uwwPIncomingEstimated</i> )	
Discharged loads BOD-tot Calculated ( <i>uwwBODDischargedCalculated</i> )	
Discharged loads BOD-tot Estimated ( <i>uwwBODDischargedEstimated</i> )	

Parameter ( <i>Fieldname</i> )	Explanation
Discharged loads COD-tot Calculated ( <i>uwwCODDischargedCalculated</i> )	
Discharged loads COD-tot Estimated ( <i>uwwCODDischargedEstimated</i> )	
Discharged loads N-tot Calculated ( <i>uwwNDischargedCalculated</i> )	
Discharged loads N-tot Estimated ( <i>uwwNDischargedEstimated</i> )	
Discharged loads P-tot Calculated ( <i>uwwPDischargedCalculated</i> )	
Discharged loads P-tot Estimated ( <i>uwwPDischargedEstimated</i> )	

Proposal to add four new parameters (One as master data, three as voluntary parameters and one as mandatory parameter):

Parameter ( <i>Fieldname</i> )	Explanation
ID of the successor (historic data management)	Explanation: see table Agglomerations Proposal: Master data
Sewage treatment technology	This information is relevant for the water experts to know which technology is in place in each country. Crossing this information with other data of the database will help to lead sanitation policy in Europe and each country.  On the long-term a pre-defined list could be provided to the MS (e.g. MBR, SBR, biological filter, extended aeration activated sludge, other activated sludge, lagoon, aerated lagoon, rotated biological contactor, reed bed filter, trickling filter, physico-chemical clarification, decantation,...)  Proposal: Voluntary data
Sludge treatment technology	This information is relevant for the water experts to know which technology is in place in each country. Crossing this information with other data of the database will help to lead sanitation policy in Europe and each country.  On the long-term a pre-defined list could be provided to the MS (e.g. dewatering, aerobic stabilization,...) with a progressive implementation (each two years) depending from the size of the agglomeration (see table in chapter 3)  Proposal: Voluntary parameter



Parameter ( <i>Fieldname</i> )	Explanation
UWWTP national Internet link	<p>To be able to have a direct access to national information at EU level. If a national website exists with detailed information for all agglomerations or UWWTPs, the national Internet link has to be generated in the best manner (e.g same Internet link root including EU UWWTP or agglomeration ID code) in order to automatize it. The objective here is not to have access on municipalities websites which could be the aim of the national website but only to national information well organised and displayed.</p> <p>For example with the French website the Internet link is:  <a href="http://assainissement.developpement-durable.gouv.fr/station.php?code=0456091S0003">http://assainissement.developpement-durable.gouv.fr/station.php?code=0456091S0003</a></p> <p>The Internet link root is <a href="http://assainissement.developpement-durable.gouv.fr/station.php?code=">http://assainissement.developpement-durable.gouv.fr/station.php?code=</a> and the EU UWWTD ID code is FR0456091S0003. It is very easy to generate the national hyperlink for each UWWTP at EU level.</p>

Proposal for denomination and change of status/ assessment for twelve parameters:

Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future status/ assessment
Incoming load BOD-tot measured ( <i>uwwBODIncomingMeasured</i> )	Voluntary parameters	<p>Proposal to denominate these parameters to 'Incoming load BOD-tot', 'Incoming load COD-tot', etc. and to include one general parameter, which gives the method to determine the load 'Method used to determine the incoming and discharged loads'.</p> <p>These parameters represent physical parameters of UWWTPs and in brief characterize the performance of an UWWTP. 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.</p>
Incoming load COD-tot measured ( <i>uwwCODIncomingMeasured</i> )		
Incoming load N-tot measured ( <i>uwwNIncomingMeasured</i> )		
Incoming load P-tot measured ( <i>uwwPIncomingMeasured</i> )		
Discharged load BOD-tot measured ( <i>uwwBODDischargedMeasured</i> )		
Discharged load COD-tot measured ( <i>uwwCODDischargedMeasured</i> )		
Discharged load N-tot measured ( <i>uwwNDischargedMeasured</i> )		
Discharged load P-tot measured ( <i>uwwPDischargedMeasured</i> )		

Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future status/ assessment
Method used to determine the incoming and discharged loads		Proposal to remain a voluntary parameter but to encourage MS to fulfil this important information for the other uses of data. If fulfilled a correct frequency of updating could be each four years.-dated at least every four years when the agglomeration is compliant
Volume of waste water treated (m <sup>3</sup> /y) ( <i>uwwWasteWaterTreated</i> )	Voluntary parameter	<p>The parameter 'waste water volume treated' 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.).</p> <p>This parameter should also include untreated or only partly treated waste water. Therefore, it is proposed to denominate this parameter to 'Volume of waste water treated and partially treated in the WWTP (m<sup>3</sup>/y)'. As the volumes of untreated waste water might have a poor data coverage, this issue needs to be discussed with the MS</p> <p>Propose to remain voluntary parameter but to encourage MS to fulfil this important information for the other uses of data. If fulfilled a correct frequency of updating could be each four years</p>
Method used to determine the volume of waste water treated ( <i>uwwMethodWasteWaterTreated</i> )		
In cause of failure: Bad design or dimensioning ( <i>uwwBadDesign</i> )	Mandatory parameter	Proposal to combine both parameters into the following mandatory parameter 'In cause of failure: Bad performance/ bad design or dimensioning'
In cause of failure: Bad performance ( <i>uwwBadPerformance</i> )		

Proposal for change of status/ assessment for two parameters:

Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future status/ assessment
Identification whether it is the existing UWWTP (in operation) or a collecting system without UWWTPs ( <i>uwwCollectingSystem</i> )	Voluntary parameter	Mandatory parameter. This information is important when there is a direct discharge without any treatment



Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future status/ assessment
Method used to determine the volume of waste water treated ( <i>uwwMethodWasteWaterTreated</i> )	Voluntary parameter	Mandatory for agglomerations Propose to have a progressive implementation (each two years) depending from the size of the agglomeration (see table in chapter 3)

Proposal to add one new mandatory parameter from table UWWTPAgglos. The consequences of the changes have to be assessed during the 8<sup>th</sup> reporting exercise:

Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future status/ assessment
Rate of entering load transported to this UWWTP by trucks (%)	Replace " Rate of generated load of agglomeration transported to this UWWTP by trucks (%) ( <i>aucPercC2T</i> )" parameter Mandatory parameter for agglomerations $\geq 100,000$ p.e., where the fraction of total generated load treated by IAS is $\geq 2,000$ p.e. transported to this UWWTP by trucks (%) ( <i>aucPercC2T</i> )	Mandatory parameter for agglomerations, where the fraction of total generated load transported to this UWWTP by truck is $>20\%$ . Could be updated each four years

Proposal to add two parameters from the table UWWTP Add\_on to the table UWWTPs:

- ID of E-PRTR facility (*uwwE-PRTRCode*): The dataset under Art. 15(4) foresees the link between UWWTPs with a size of more than 100,000 p.e. and the E-PRTR ID as voluntary parameter. In order to ensure streamlining across data flows, it is proposed to make this parameter mandatory.
- Number of inhabitants connected to a particular UWWTP/ Collecting system: Proposal to add this parameter as voluntary parameter

### **Explanatory note to this table:**

In the context of incoming and discharged loads, which are the basis for the calculation of the treatment plant performance, and thus for the conformity assessment, it is important to re-consider the different levels of legal compliance assessment.

Figure 3 briefly describes which parameters are required for the legal compliance assessment at different levels (national level, level of reporting under Art. 15(4) and EU-level). The annual loads of BOD<sub>5</sub>, COD, Ntot and Ptot as well as the volumes of waste water discharged are currently voluntary parameters in the Art. 15(4)- reporting and are hence, not taken into account for the legal compliance assessment.



According to Annex I of the UWWTD the annual loads of BOD<sub>5</sub>, COD, N<sub>tot</sub> and P<sub>tot</sub> could be used to a limited extent to assess compliance with the Directive, but they can give a rough impression of the performance of the UWWTP. For the parameters specified in Annex I, Table 1 of the UWWTD, knowledge of at least the number and timely apportionment of taken samples and the number of failing samples would be required in order to properly assess compliance with the UWWTD. For the parameters specified in Annex I, Table 2 of the UWWTD, knowledge of at least the number and timely apportionment of taken samples would be required. In addition, the reason for non-consideration of single samples for the legal compliance assessment would be relevant (e.g. non-consideration of samples due to unusual situations).

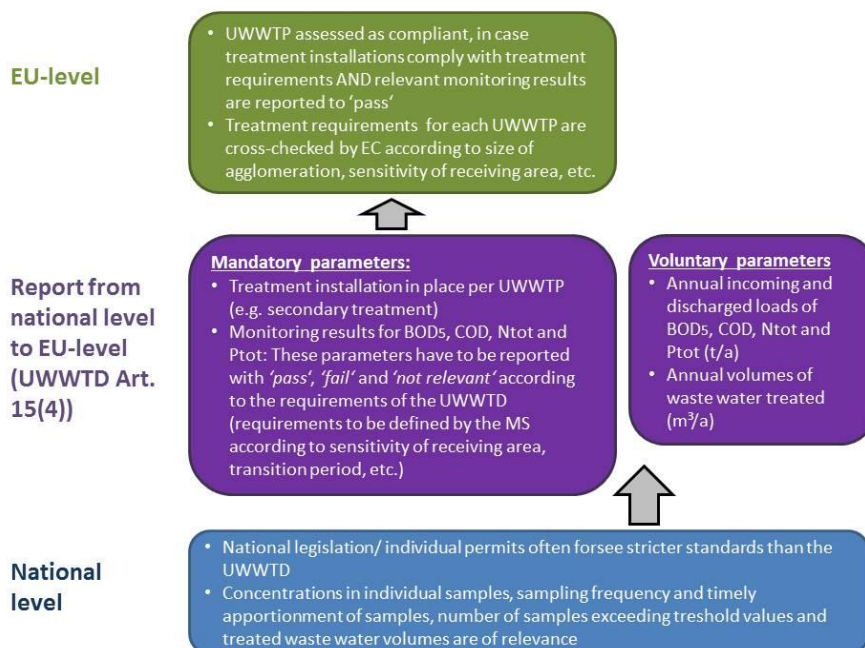


Figure 3. Compliance assessment in relation to the UWWTD on national and EU- level

This detailed information (number and timely apportionment of taken samples and the number of failing samples) could be requested by the EC from the MS in case of infringement procedures. A detailed description of parameters for this request would have to be defined at a later stage (see also chapter 5).

## 4.6 Table Discharge Points

With the current situation this block of data is in link with the treatment plant. It is also possible to use this block to have information about untreated wastewater in the collecting system and to identify the main discharges. It will remain optional but it should be useful for MS to give this information to better understand the impact of their urban waste water system.





Proposal to delete eight parameters:

Parameter ( <i>Fieldname</i> )	Explanation
Select degree of sensitivity of receiving area ( <i>dcpTypeOfReceivingArea</i> )	Redundant parameter, as sensitivity can be derived from the link to receiving area ID
Are there surface waters available? ( <i>dcpSurfaceWaters</i> )	Parameter is not necessary
ID of WFD groundwater body ( <i>dcpGroundWater</i> )	No differentiation between WFD surface water body and groundwater body is required. This differentiation is obvious from the ID of the waterbody
ID of receiving water ( <i>dcpReceivingWater</i> )	As regards the parameter 'ID of receiving water' the meaning is not clear. In the UWWTD Art. 15(4)- background document <sup>7</sup> it is mentioned that this parameter should be reported, once there is a unique coding in Europe. It is assumed that this parameter was originally intended to refer to a WFD- reporting element, which was planned to be implemented in the year 2005/2006, but which was not realized. Definitely, this parameter does not refer to the ID of an UWWTD receiving water (as the UWWTD defines the ID of receiving areas and the type of receiving water). It is therefore proposed to delete this parameter.
ID of WFD sub-unit ( <i>dcpWFDSubUnit</i> )	Can be derived from the ID of waterbodies
Reference date of WFD groundwater body ( <i>dcpGroundWaterReferenceDate</i> )	Not relevant, as the parameters were proposed to be deleted
Reference date of receiving water ( <i>dcpReceivingWaterReferenceDate</i> )	
Reference date of WFD sub-unit ( <i>dcpWFDSubUnitReferenceDate</i> )	

Proposal to add six new parameters (three as master data and three as voluntary parameters):

Parameter ( <i>Fieldname</i> )	Explanation
ID of the successor (historic data management)	Explanation: see table Agglomerations Proposal: Master data
Type of discharge point (UWWTP/collecting system)	A clear way to identify the type of discharge if a MS wants to give information on the collecting system discharge points Proposal: voluntary parameter
Name of the WFD waterbody	Names of WFD waterbodies and WFD river basin districts will be more familiar to the users of the UWWTD SIIF, than IDs. Proposal: Master data
Name of the WFD river basin district	

<sup>7</sup> Available at: [http://forum.eionet.europa.eu/x\\_wise-reporting/library/treatment\\_directive/uwwtd\\_request\\_2011/supporting\\_documents/description\\_blocks](http://forum.eionet.europa.eu/x_wise-reporting/library/treatment_directive/uwwtd_request_2011/supporting_documents/description_blocks)

Parameter ( <i>Fieldname</i> )	Explanation
Volume of untreated waste water (m <sup>3</sup> /y)	<p>The current UWWTD Art. 15(4)- data model does not foresee the establishment of discharge points for the generated load of an agglomeration, which is not collected in collecting system and not addressed through IAS. It is assumed that this fraction represents a diffuse pollution, which entails less negative effects to the aquatic environment than the collection of waste water in a collecting system and its punctual discharge without treatment.</p> <p>This could be also extended to the consideration of sewer overflows. From the WFD- point of view it is important to take into account the big pressures to the aquatic environment.</p> <p>Proposed as voluntary parameter but encourage MS to fulfil this important information for the other uses of data if available. If fulfilled a correct frequency of updating could be each four years.</p>
Does the discharge affect the objectives of other relevant Directives (e.g. MSFD, WFD, BWD,...)? (UWWTD Annex I.B.4)	<p>For this parameter textual information should be provided.</p> <p>The discharges of the agglomeration have to be compliant with the objectives of the other relevant directives. It is important to know if the infrastructure of the agglomeration is sufficient or not regarding this different aims (e.g. BWD, WFD, MSFD, shellfish, Natura 2000,...)</p> <p>Proposed as voluntary parameter but encourage MS to fulfil this important information for the other uses of data if available. If fulfilled a correct frequency of updating could be each four years.</p>

Proposal for change of status/ assessment and shift from table Agglomerations to table Discharge Points for one parameter:

Parameter ( <i>Fieldname</i> )	Current status/ assessment	Proposed future status/ assessment
Indicate the number of overflows each year in case the parameter 'EffluentFlowType' is filled with 'Untreated effluent – dry and wet weather in the UWWTP' or 'Untreated effluent – dry and wet weather in the collecting system'	Voluntary parameter	Proposal: remain as voluntary parameter but encourage MS to fulfil this important information for the other uses of data if available. If fulfilled a correct frequency of updating could be four years.



Proposal for denomination of two parameters:

Parameter ( <i>Fieldname</i> )	Explanation
Reference date of the WFD waterbody ( <i>dcpWaterBodyReferenceDate</i> )	Instead of 'reference date...' these parameters should be renamed to 'Version of...'
Reference date of the WFD river basin district ( <i>dcpWFDRBDRReferenceDate</i> )	

## 4.7 Table Industries

Proposal to add one new parameter (as voluntary parameter):

Parameter ( <i>Fieldname</i> )	Explanation
ID of the successor (historic data management)	Explanation: see table Agglomerations

## 4.8 Table MSLevel

Proposal to delete two voluntary parameters:

Parameter ( <i>Fieldname</i> )	Explanation
brief text information on the fate of generated wastewater ( <i>aggInfoFateWithoutTreatment</i> )	Not useful
Number of inhabitants connected to treatment plants ( <i>mslInhabitantsUwwtp</i> )	Split in three parameters with the type of treatment (primary/secondary/more stringent)

Proposal to add 3 mandatory parameters in link with Eurostat questionnaire:

Parameter ( <i>Fieldname</i> )	Explanation
Number of inhabitants connected to primary treatment plants	Mandatory only at national level in link with Eurostat questionnaire. An update every four years is sufficient for compliant MS
Number of inhabitants connected to secondary treatment plants	
Number of inhabitants connected to more stringent treatment plants	

Proposal to shift three parameters from the table Agglomerations to the MS level and to simplify (see also Table Agglomerations):

Parameter ( <i>Fieldname</i> )	Proposed future assessment
What are the measures based on: Dilution rates ( <i>aggDilutionRates</i> )	What are the measures based on: Dilution rates, capacity in relation to dry weather flow, acceptable number of overflows per year
What are the measures based on: Capacity in relation to dry weather flow ( <i>aggCapacity</i> )	
What are the measures based on: Acceptable number of overflows per year ( <i>aggAccOverflows</i> )	

Proposal to shift seven parameters from the table MSlevel\_add-on to the table MSlevel (as mandatory parameters, to be reported every two years or four years depending from the compliance considering that the higher the compliance is the lower the changes are):

- Number of inhabitants connected to IAS (*mslInhabitantsIAS*)
- Number of inhabitants not connected to collecting system nor served by IAS (*mslInhabitantsWithoutTreatment*)
- Number of inhabitants connected to collecting systems (*mslInhabitantsCollSyst*)
- Number of inhabitants connected to treatment plant serving agglomeration smaller than 2,000 p.e. (*mslInhabitantsUwwtpAgglo2*)
- Number of inhabitants connected to collecting systems serving agglomeration smaller than 2,000 p.e. (*mslInhabitantsCollSystAgglo2*)
- Number of inhabitants connected to collecting system or treatment plant serving agglomeration smaller than 2,000 p.e. (*mslInhabitantsIASAgglo2*)
- Number of inhabitants in agglomeration smaller than 2,000 p.e. (*mslInhabitantsWithoutTreatmentAgglo2*)

## 5 Module UWWTD Compliance information

The purpose of this module is not the creation of new parameters, which have to be fulfilled by the MS, but a proposal for a better way to highlight the benefits of parameters, which are proposed to be included in the UWWTD SIIF data model. The parameters are automatically generated by using information provided for other parameters and by providing MS the algorithms for the legal compliance assessment on EU-level. The parameters proposed for this module are intended to make the results of the legal compliance assessment more transparent.

- Parameters '**Compliance as regards waste water collection (Art. 3)/ waste water treatment (Art. 4)/ (Art. 5)/ (Art. 6) at reference date**' proposed for reference element 'agglomeration': On the basis of the newly proposed parameters 'Date of the relevant deadline of UWWTD or Transition Period – Article 3/ Article 4/ Article 5/ Article 6' and the algorithms for the legal compliance assessment with Article 3/ Article 4/ Article 5/ Article 6 on EU-level, the status of compliance can be automatically calculated and presented in this module.
- Parameters '**Compliance as regards waste water treatment installation (Art. 4/ Art. 5/ Art. 6) at reference date**' proposed for reference element 'UWWTP': On the basis of the newly proposed parameters 'Date of the relevant deadline of UWWTD or Transition Period – Article 3/ Article 4/ Article 5/ Article 6' for agglomerations, the newly proposed parameters 'Starting date of application of Art. 5(2,3) – criterion a (N)/ criterion a (P)/ criterion b/ criterion c' for receiving areas and the already existing parameters on the type of treatment (= treatment installation) in place for UWWTPs, the status of compliance of an UWWTP as regards waste water treatment installations can be automatically calculated and presented in this module.



- Parameters '**Compliance as regards waste water treatment performance (Art. 4/ Art. 5/ Art. 6) at reference date**' proposed for reference element 'UWWTP': On the basis of the newly proposed parameters '*Date of the relevant deadline of UWWTD or Transition Period – Article 3/ Article 4/ Article 5/ Article 6*' for agglomerations, the newly proposed parameters '*Starting date of application of Art. 5(2,3) – criterion a (N)/ criterion a (P)/ criterion b/ criterion c*' for receiving areas and the already existing parameters on treatment performance (= monitoring results) for UWWTPs, the status of compliance of an UWWTP as regards waste water treatment performance can be automatically calculated and presented in this module.

**Explanatory note to this module:**

Compliance rates with Art. 3/ Art. 4 and Art. 5: In the commenting phase to the preliminary list of parameters, the EC requires to extract from the data model of the UWWTD SIIF (presented by the EC in the UWWTD SIIF workshop on 12 December 2012 in Brussels) one comment concerned the assessment of compliance in terms of 'compliant'/ 'not-compliant'. In detail it was argued that it would be good to show different degrees of compliance with Art. 3, Art. 4 and Art. 5, which would allow a better presentation of compliance- development over time (e.g. at reference date 2009 an agglomeration achieves 40% of compliance with Art. 4, whereas at reference date 2011 the same agglomeration achieves a compliance rate of 80%). This approach could also support the presentation of the effects of investments towards achieving compliance, which is possible to a very limited extent with the current assessment methodology.

The general possibility and suitability to implement this approach have to be discussed with the MS in detail. One option could be to implement this approach for national UWWTD SIIFs.

## **6 Module Forward looking aspects: based on UWWTD Art. 17 Information on getting (or staying) in compliance**

This aspect is developed in a European Commission explanation document about implementation of article 17. A discussion on this aspect has taken place on 16<sup>th</sup> January 2014 with all EU-MS considering the reactivation of article 17 implementation plan. The EU-MS will have the choice either to choose the old template (with 40 old worksheets), or to choose the new one (with 7 worksheets).

Depending on the compliance status of agglomerations and plants, different reporting information are considered in the new template:

- Detailed information is to be requested for those agglomerations and treatment plants that (i) are considered non-compliant, or (ii) for which there are non-expired deadlines,
- No information will be requested for agglomerations or treatment plants which are considered compliant and for which there are no reasons to conclude that this situation is to change,
- It remains optional for MS to give information on new non-compliant situations when the total rate of compliance is more than 97% of the load generated by agglomerations (it is considered that a renewable rate of 3% of non-compliant situations each year does not put into question the general compliance at MS level)

- Aggregated socio-economic information at national level is to be requested to all MS, including those that reach very high compliance levels,
- Free text contributions will also be accepted.

Relevant parameters for the reference element not compliant or pending deadlines **‘agglomeration’** could include (link to be established via the agglomeration ID and the reference date):

- Identified reason(s) for cause of failure
- Measure(s) to ensure compliance with Article 3 (collecting systems and IAS)
- Competent authority collecting system or IAS
- Expected number of inhabitants of the agglomeration at the expected date of compliance
- Expected generated load of the agglomeration at the expected date of compliance
- Expected rate of the generated load of agglomeration collected through collecting systems at the expected date of compliance
- Expected rate of the generated load of the agglomeration addressed through IAS at the expected date of compliance
- Expected date for completion of preparatory measures of the collecting system or IAS (planning, design, etc)
- Expected date to start works of the collecting system or IAS
- Expected date of compliance of the collecting system or IAS
- Forecast cost investment of the collecting system or IAS (as in the national plan)
- Name of EU fund planned to be used for the collecting system or IAS (if any)
- Planned EU funding for the collecting system or IAS (if any)
- Comments collecting system or IAS
- Hyperlink with a national agglomeration fiche

Relevant parameters for the reference element not compliant or pending deadlines **‘UWWTPs’** could include (link to be established via the UWWTP ID and the reference date):

- Remediation measure(s) UWWTP
- Competent authority UWWTP
- Expected load entering the UWWTP at the expected date of compliance
- Rate of entering load transported to this UWWTP by truck at the expected date of compliance
- Expected organic design capacity UWWTP
- Expected type of treatment UWWTP
- Expected date of completion of preparatory measures (planning, design, etc) UWWTP
- Expected start date for works UWWTP
- Expected date for the completion of works UWWTP
- Expected date of compliance UWWTP (12 months of samples)



- Forecast cost investment of the UWWTP (as in the national plan)
- Name of EU fund planned to be used UWWTP (if any)
- (planned) EU funding UWWTP
- comments UWWTP
- Hyperlink with a national UWWTP fiche

For MS which want to use article 5.4 for existing sensitive areas or to give information about new possible designation of sensitive areas, relevant parameters for the reference element '**sensitive areas**' table could include (link to be established via the agglomeration ID, the UWWTP ID and the reference date):

- Expected ID of the sensitive area
- Expected name of the sensitive area
- Expected type of the sensitive area
- Expected designation criteria
- Expected type of receiving water
- Expected date of designation
- Expected deadline article 5
- Expected year of compliance article 5.4
- Expected number of treatment plants
- Expected organic design capacity
- Expected N Rate of removal
- Expected P Rate of removal

Relevant parameters for the reference element '**SOCIO- ECONOMIC ASPECTS**' at MS level could include for the past, current and expected situation (reference years 2009,2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020):

- Length of sewage collecting systems (excluding storm water collecting systems),
- Total design capacity of the UWWTPs,
- Investment costs collecting systems,
- Investment costs of the treatment plants,
- Operating costs of the collecting systems and UWWTPs without amortization of investment,
- EU funds requested (if applicable),
- Number of Jobs in the sanitation field.

## **7 Additional issue for consideration: Provision of GIS-shape files of UWWTD receiving areasModule**

In addition to tabular data, the MS also report GIS-shape files on UWWTD sensitive areas and their catchments (three reporting cycles so far). On the basis of the reported GIS-files reported/ updated in the UWWTD reporting cycle 2007, 2009 and 2011 the ETC/ICM prepared a reference layer on UWWTD Catchments of sensitive areas (CSA, polygons), which is available in the UWWTD WISE Viewer and which gives the sensitivity of the CSA.

Only the layer on CSA contains quality checked shape files and can be considered as reference layer. The remaining layers shape files (e.g. Sensitive area - rivers, Sensitive area - lakes, Sensitive area - transitional waters, Sensitive area – coastline, Sensitive area – coast area, Less sensitive area – coastline) contain data ‘as reported by MS’, as too many topological errors were identified in these layers.

INSPIRE already provides data specifications for UWWTD Sensitive areas, which are included in the draft technical guidelines D2.8.III.11, on ‘The Area management/restriction/regulation zones and reporting units’. An UML class diagram on the ‘Overview of Area management, restriction and Regulation Zones application Schema is also available.

The CSA shape files of the last data submission (in 2011) were not yet checked for conformance against the requirements of the INSPIRE Technical guidance upon submission, as conformance testing was still an issue under discussion in 2011 – 2012. This conformance classes could not be included in the spatial data specification provided to MS prior reporting exercise. Therefore the finalized reference layer is not in full conformity.

For the future it could be an option that there are reference layers for all UWWTD sensitive areas, (which are on the long-term in conformity with INSPIRE specifications and) which contain not only information on sensitivity criteria, but also on the date of designation/ last revision (as this date is important for the compliance assessment). These reference layers should be available for different reference dates (availability of historical data).

## **8 EC- internal information: Possible information to be included**

In contrast to the three main modules proposed for the EU-level UWWTD SIIF, which provide ideas for single parameters, the proposal for possible information to be included in the module of EC- internal information follows a conceptual approach. This means that no specific parameters are proposed, but that relevant aspects are identified, which need to be further detailed into parameters in the future.

In the next months the EC plans to investigate the user and data needs for the module of EC- internal information amongst different units of DG ENV, the EEA and DG REGIO. For the current document the proposed parameters for this module are therefore not entirely clear, but several requirements can already be stipulated:





- The module on EC- internal information requires the clear link to data reported through ‘normal’ reporting procedures (i.e. reporting under UWWTD Art. 15(4)).
- The UWWTD clearly defines how to assess compliance with the requirements of the UWWTD (see Art. 15 of the UWWTD). As already mentioned in chapter 3.1.5 the relevant parameters for assessing compliance according to the UWWTD are currently not requested in detail in the UWWTD Art. 15(4)- reporting (i.e. no information on number of taken samples and number of failing samples). In case of infringement procedures against one MS the EU-level SIIF could include a set of parameters, which allow the detailed compliance assessment against the requirements of the UWWTD and which might be (automatically) derived from the parameters for assessing compliance against national legislation and/ or individual permits.

For the purpose of the current document the following parameters are proposed for this module on a preliminary basis:

Relevant aspects for the reference element ‘**agglomeration**’ could include (link to be established via the agglomeration ID and the reference date):

- In case the agglomeration was subject to an infringement case: case number
- Parameters provided from the MS in the context of the infringement case (parameters to be defined)
- Obligations resulting from the infringement case (e.g. required waste water treatment type)

Relevant aspects for the reference element ‘**UWWTP**’ could include (link to be established via the UWWTP ID and the reference date):

- In case the UWWTP was subject to an infringement case: case number
- Parameters provided from the MS in the context of the infringement case (parameters to be defined)
- Obligations resulting from the infringement case (e.g. required waste water treatment type)
- In case of the necessity to provide detailed information as regards UWWTD-compliance under Art. 15(1-3), the following information could be requested from the MS:
  - ✓ For BOD<sub>5</sub>, COD, total suspended solids, N<sub>tot</sub> and P<sub>tot</sub>: Number of samples collected in the outlet and if necessary in the inlet of the treatment plant (if possible the dates of the individual samples should be indicated, to make sure that the samples are collected at regular intervals within the reference year)
  - ✓ For BOD<sub>5</sub>, COD, total suspended solids: Number of samples which are allowed to fail the requirements expressed in concentrations and/ or percentage reductions in Table 1 and Article 2(7) of the UWWTD (as specified in Table 3 of the UWWTD)

- ✓ For BOD<sub>5</sub>, COD and total suspended solids: Number of samples which fail the requirements expressed in concentrations and/ or percentage reductions in Table 1 and Article 2(7) of the UWWTD (as specified in Table 3 of the UWWTD)
- ✓ For N<sub>tot</sub> and P<sub>tot</sub>: annual means as regards concentrations and/ or minimum percentage of reduction
- ✓ The most transparent solution would be the electronic transmission of information on sampling dates and concentrations of BOD<sub>5</sub>, COD, total suspended solids, N<sub>tot</sub> and P<sub>tot</sub> of all samples taken at the UWWTP. In addition, the waste water flows (m<sup>3</sup>) would have to be transmitted as well in order to calculate loads. In fact, this information is usually available on a regional/ national level in the MS for the assessment of compliance with national legislation and/ or individual permits.

Relevant aspects for the reference element '**receiving area**' could include (link to be established via the receiving area ID and the reference date):

- In case the receiving area was subject to an infringement case: case number
- Parameters provided from the MS in the context of the infringement case (parameters to be defined)
- Obligations resulting from the infringement case (e.g. required waste water treatment type)

## 9 MS-specific information: Possible information to be included into national UWWTD dissemination systems adhering to SIIF

On a national basis the establishment of a UWWTD SIIF could provide the opportunity to establish a comprehensive database and data management tool for all potential user groups of urban waste water related data (see also Table 2 of the report '*Current situation of information management related to the UWWTD and urban waste water on Member State- and EU-level*'). Reporting under the UWWTD represents only one objective for the collection of urban waste water related data, whereas the primary objectives are national and/ or regional water management and administration purposes (i.e. to ensure and prove, that UWWTPs comply with national legislation and/ or individual permits, to define the needs for action and financial requirements to ensure compliance with national legislation in the future, etc.). In this context it has to be emphasized that national legislation and even single permits for UWWTPs may stipulate stricter standards for other and/ or more parameters than the UWWTD<sup>8</sup>). The national SIIF could serve as platform to store and

<sup>8</sup> In principal, meeting the national/ regional standards should qualify an UWWTP to also meet the UWWTD-criteria. In contrast, not meeting the national/ regional standards does not necessarily have to mean that the UWWTP does not comply with UWWTD-standards



manage all the information required for this purpose, provide different user access rights for data providers and data users (like e.g. implemented in LT) and also include evaluation tools for investigating compliance with national legislation and/ or individual permits (like e.g. implemented in France<sup>9</sup>). The national SIIF could provide the possibility to not only show the results of the compliance assessment with national legislation/ individual permits, but also functionalities to make the underlying data available in specific formats e.g. for the EC in specific cases (e.g. infringement cases). A tool or functionality to use the data for the evaluation of compliance with standards of the UWWTD could be provided as well.

The parameters, formats, data exchange and data presentation functionalities to be included in a national SIIF have to be defined individually by each MS. Therefore, the following document proposes possible information to be included in national UWWTD SIIFs only in a conceptual way. This means that no specific parameters are proposed, but that relevant aspects are identified, which need to be further detailed into parameters.

The aspects, which are possibly relevant on MS- level are grouped according to the following modules:

- Parameters of physical nature
- Parameters of administrative nature
- Further parameters relevant for implementation and compliance
- Perspective on getting (or staying) in compliance

## 9.1 Parameters of physical nature

Relevant aspects for the reference element **‘agglomeration’** could include (link to be established via the agglomeration ID and the reference date):

- Differentiation of the generated load of the agglomeration (p.e.) resulting from inhabitants, economic activity and tourism
- Construction of collecting system (%) (proposal by CY, as in some CY cases the collecting system is constructed but not fully connected with housing)
- Housing connection rate (in % of the total number of housing connections) (proposal by CY)
- Percentage of/ length of combined and separate sewer systems serving the agglomeration
- Volumes of raw sewage and/ or pollutant loads (pollutants to be defined from the MS) discharged through combined sewer overflows (CSO) in the reference year

Relevant aspects for the reference element **‘UWWTP’** could include (link to be established via the UWWTP ID and the reference date):

- Technical details as regards UWWTP installations (e.g. number and/ or total volume of settlement tanks, volumes of biogas-used,...)
- Sewage sludge production per year (t dry solids/a)

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<sup>9</sup> In France, two tools are available for this purpose (see also <http://assainissement.developpement-durable.gouv.fr/services.php>): “Measurestep” allows the operators of the WWTPs to use their analysis and to send them to the local state authorities and river basin agencies. “Autostep” that allows the local state authorities to read those analyses and to decide whether the WWTPs are compliant

- Sewage sludge disposal routes in % of total annual sewage sludge production (e.g. incineration, use in soil and/ or agriculture, landfill, storage at the UWWTP, others)
- Volume of waste water reused ( $\text{m}^3/\text{a}$ )
- Percentage of re-used waste water used in agriculture/ industry/ other
- Percentage of re-used waste water used in other: Please explain
- Date of starting operation (mm/yy)
- Hydraulic design capacity ( $\text{m}^3/\text{d}$ )
- Concentration of pollutants in the influent of the UWWTP (pollutants to be defined from MS)
- Concentration of pollutants in the effluent of the UWWTP (pollutants to be defined from MS)
- Concentration of pollutants in sewage sludge of the UWWTP (pollutants to be defined from MS)
- Name and type of indirect dischargers to the UWWTP (i.e. industrial facilities, which discharge into UWWTPs)
- Percentage of/ length of combined and separate sewer systems within the UWWTP service area
- Number, name, ID, location and/ or volumes of combined sewer overflows within the UWWTP service area in the reference year
- Volumes of raw sewage and/ or pollutant loads (pollutants to be defined from the MS) discharged through combined sewer overflows (CSO) within the UWWTP service area in the reference year

Relevant aspects for the reference element '**Discharge point**' could include:

- Name of receiving area (link to be established via ID of receiving area and reference date)

## 9.2 Parameters of administrative nature

Relevant aspects for the reference element '**UWWTP**' could include (link to be established via the UWWTP ID and the reference date):

- Contact details of the operator of the UWWTP (possible parameters: Name of institution, Name of contact person, Street, Post code, City, Phone, Email)
- Contact details for the informed public (regional authorities) (possible parameters: Name of institution, Name of contact person, Street, Post code, City, Phone, Email)
- Contact details of the authority, which is responsible for the permit of this UWWTP (possible parameters: Name of institution, Name of contact person, Street, Post code, City, Phone, Email)
- Total population (number of inhabitants) in the UWWTP serving area
- Population (number of inhabitants) connected to this UWWTP



### 9.3 Further parameters relevant for implementation and compliance

Relevant aspects for the reference element **‘agglomeration’** could include (link to be established via the agglomeration ID and the reference date):

- Compliance rate with UWWTD Art. 3, Art. 4 and Art. 5 in relation to infrastructure

Relevant aspects for the reference element **‘UWWTP’** could include (link to be established via the agglomeration ID and the reference date):

- Emission standards and/ or removal rates required according to national legislation/ individual permits
- Results of compliance assessment with national/ individual legislation/ permits (e.g. in terms of number of samples exceeding the threshold values, removal rates, etc.)

### 9.4 Perspective on getting (or staying) in compliance

Relevant aspects for the reference element **‘agglomeration’** and the reference element **‘UWWTP’** could include (link to be established via the agglomeration ID/ the UWWTP ID and the reference date):

- Description of measures to achieve/ maintain compliance
- Source of Funding: National funding (€)
- Source of Funding: Local Authority funding (€)

## 10 Link to other reporting dealing with urban waste water

It was already described in the report *‘Current situation of information management related to the UWWTD and urban waste water on Member State- and EU- level’* that there are several regular and irregular data exchanges/collections which are dealing at least partly with information related to urban waste water treatment and the UWWTD (Figure 7).

Structure, contents and definitions of these data exchanges / collections follow their own individual purposes with specific perimeter in terms of thematic coverage or aggregation level (geographic, temporal, thematic). They were also not always primarily harmonised with the UWWTD, their specifications originating from different institutions dealing with water (e.g. parameters of the JQ- IW were primarily harmonized with the OECD). However, there are several elements which are overlapping in the different data collections, as can be seen from Figure 4.

While most of the above mentioned regular data collections are dealing with aggregated information, the reporting exercise under UWWTD Art. 15(4) requests disaggregated information on agglomerations, UWWTPs, discharge points and receiving areas that can be aggregated to form a core part of the other reportings. From an IT point of view, in case of revision of the UWWTD or for the organisation of the national SIIFs, it would be more efficient to extend the UWWTD perimeter to cover all the disaggregated information mentioned above with no threshold.

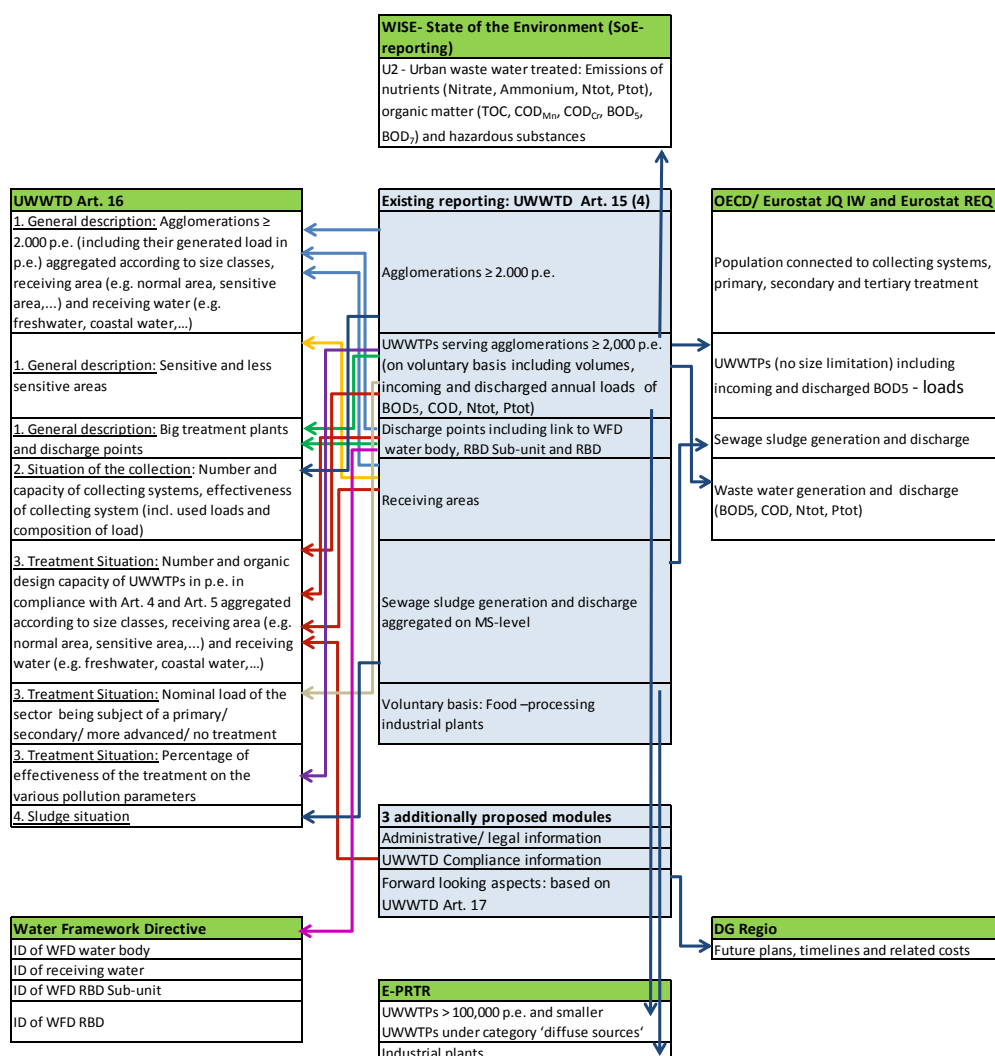


Figure 4. Link of the proposed UWWTD SIIF data model to other reporting dealing with urban waste water

## 11 Overview of possible UWWTD SIIF data flows starting from national UWWTD SIIFs

As already described in chapter 1 the current document focuses on the development of the UWWTD SIIF on the EU-level. In order to complete this document and to reflect on the fact that UWWTPs represent a core element, in case a MS decides to establish a national UWWTD SIIF fully compatible with the EU-level SIIF, Figure 5 shows the data model and data flows starting from the national UWWTD SIIF- side.



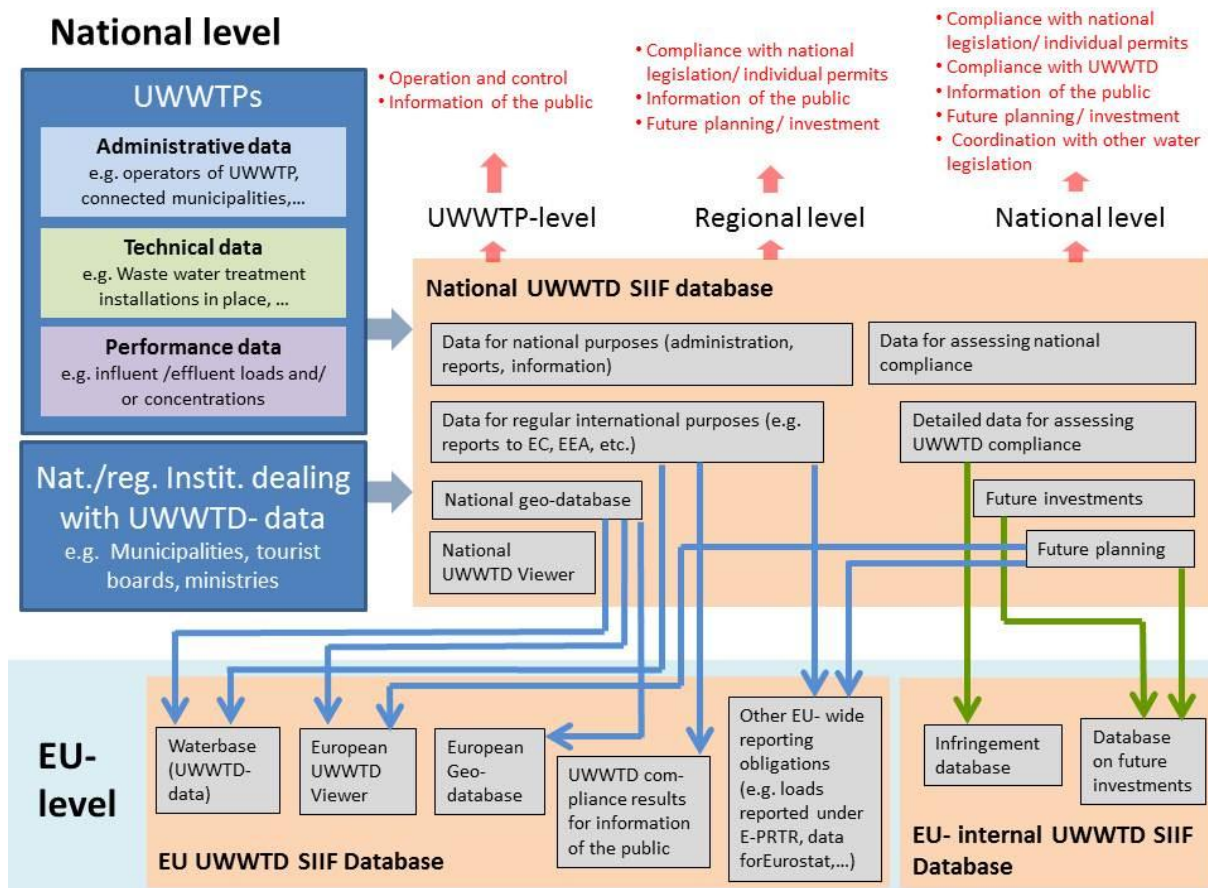


Figure 5. Possible UWWTD SIIF data flows starting from the national UWWTD SIIF- side