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<b>Document title</b>	Examples of PLC point source data corresponding to EU data collection
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<b>Agenda Item</b>	4 – Finalization of PLC-6 Guidelines
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<b>Submitted by</b>	UBA Germany and Chairman of PLC-6
<b>Reference</b>	Paragraphs 5.7-5.11

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## Background

Current pollution load compilations (e.g. PLC-5.5) are carried out in accordance with the present Guidelines for the Waterborne PLC adopted by HELCOM 26/2005. These include *inter alia* provisions for dealing with waterborne discharges from point sources.

The PLC Guidelines are being revised, including Chapter 5 on discharges from categorised point sources. These point source categories comprise municipal wastewater treatment plants (MWWTP), industrial plants (INDUSTRY) and aquaculture plants (AQUACULTURE). Contracting Parties are requested to report plants individually. Where this is inappropriate, reporting of aggregated plants for each category is acceptable.

The need to review “Input from the INDUSTRY into the Baltic Sea” arises primarily from the need to streamline HELCOM data issues with EU reporting. In addition to this, it is necessary to keep pace with EU legislation such as:

- Directive 2010/75/EU on industrial emissions (**IED**);
- REGULATION (EC) No 166/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the establishment of a European Pollutant Release and Transfer Register (**E-PRTR**);
- COUNCIL DIRECTIVE (91/271/EEC) concerning urban waste water treatment (**UWWTPD**).

These legislations contribute to the prevention and reduction of pollution of the environment and aim at making certain point source/facility data publicly available thereby meeting the requirements of the Aarhus Convention<sup>1</sup>.

## This document

This document presents in Table 1, examples of Nitrogen data of selected PLC point sources, which correspond to EU data collected under the **E-PRTR** and the **UWWTPD**. It proposes some action to take, which aim at consistency of data sets and data quality assurance linked to PLC reporting templates.

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<sup>1</sup> The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (‘the Aarhus Convention’), signed by the European Community on 25 June 1998.

**Table 1:** Examples of PLC point source data corresponding to EU data collection

Ntot in t/2010		PLC		PRTR		UWWTPD	
	Point source / facility / plant	ID	Load	national ID	Release	uwwCode	Discharge
DK	DAMHUSÅEN	MDK0020	167	8958	275	DK1010006	167
	SPILDEVANDSCENTER AVEDØRE	MDK0117	104	not reported in 2010		DK1670001	104
	Ejby Mølle renselanlæg, Odense	MDK0027	66	8964	66	DK4610302	65
DE	UWWTP, Rostock	MDE0050	199	13-30-9991437	200	DETP_MV03.03.1 wbu1437	215
	UWWTP, Kiel-Büik	MDE0032	159	01-20-58157382540	137	DETP_SH58157	197
EE	Tallinna Vesi AS, Paljassaare reoveepuhastusjaam	MEE0004	574	EE061415	574	EE061415	462
	Tartu Veevärk AS, Tartu reoveepuhastusjaam	MEE0020	139	EE079514	139	EE079514	133
FI	LAPUAN JÄTEVESI OY	MFI0062				no data available <sup>2)</sup>	
	KOTKAN VESI, MUSSALON VIEMÄRILAITOS	MFI0019					
	Helsingin seudun ympäristöpalvelut -kuntayhtymä, Viikinmäen jätevedenpuhdistamo			200	639		
	FORSSAN KAUPUNGIN VIEMÄRILAITOS; KESKUSPUHDISTAMO			148	121		
LV	DAUGAVGRIVAS BIOLOGISKAS ATTIRISANAS IEKARTAS	MLV0001	1.042	41835	1.090	LV100175	1.204
	VALMIERAS DOME	MLV0017	6			LV500201	29
	SIA "KP Tehnologijas"	MLV0022	no data			LV100318	69
LT	KLAIPEDA MUNICIPAL	MLT0001	191	000000115	172	LT-AG-003-WWTP-01	165
	UAB AUKŠTAITIJOS VANDENYS PANEVEZIO M. NT	MLT0867		000000079	69	LT-AG-005-WWTP-01	70
	UAB "Kauno vandenys"			000000078	190	LT-AG-002-WWTP-01	206
PL	Przedsiębiorstwo Wodociągów i Kanalizacji Sp. z o. o. w Gdyni, Oczyszczalnia Ścieków "Dębogórze"	MPL0001	157	11G000893	156	PLPM0020	161
	SAUR NEPTUN GDANSK S.A, Oczyszczalnia Ścieków Gdańsk-Wschód	MPL0425	410	11G000721	407	PLPM0010	406
SE	Öresundsverket, AVR, HELSINGBORG RV	MSE0015	138	1283-50-001	138	SE0381_50_095	no data available <sup>2)</sup>
	Uppsala Avloppsreningsverk <sup>1)</sup>		210	0380-50-080	210	SE0380_50_080	
	Gryaab AB Ryaverket, Göteborg	MSE0037	1239	1480-1131	1.240	SE1480_1131	

**Footnotes:**

<sup>1)</sup> Uppsala ARV is an inland point source and is therefore only included in periodical PLC reports. No PLC annual ID exists.

<sup>2)</sup> FI and SE reported acc. to Art. 5.4 of the Directive 91/271/EEC, Para 4: "Alternatively, requirements for individual plants set out in paragraphs 2 and 3 of the Directive need not apply in sensitive areas where it can be shown that the minimum percentage of reduction of the overall load entering all urban waste water treatment plants in that area is at least 75 % for total phosphorus and at least 75 % for total nitrogen."

Although different in scope and aim **definitions** pose some risk as to whether authorities would fully reflect them when undertaking sampling, measurements, lab analyses and reporting.

**Definitions****Draft PLC-6 guidelines:**

Total nitrogen (Ntot) in river water can be analysed by a method based on oxidation with potassium peroxodisulfate followed by reduction of nitrate with a cadmium reductor (cf. Nitrate above). Especially for analyses of industrial wastewater the modified Kjeldahl method with Dewarda's alloy or the Kjeldahl method and the determination of nitrate separately is recommended. Alternative methods are instrumental methods according to EN 12260:2003, catalytically oxidation of nitrogen in water, in the form of free ammonia, ammonium, nitrite, nitrate and organic compounds capable of conversion to nitrogen oxides under the oxidative conditions. The nitrogen compounds are oxidized to nitrogen oxides, and determined instrumentally by chemiluminiscens (EN 12260:2003).

**PRTR:**

Pollutant group: Inorganic substances

Pollutant: Total nitrogen

**Description:** Nitrogen gas is relatively non-reactive and makes up 80% of the atmosphere. Total nitrogen is a term used in the measurement of organic and inorganic nitrogen compounds in soil and water. Ammonium nitrate data is provided as an example of a typical nitrogen compound.

**NOTE:** The apparent discrepancy here, might have led to inconsistent data sets (c.f. MDE0032: 159-137-197). Consequently, Germany has developed the following procedure for Total Nitrogen bound:  $TNb = \text{inorganic (Ninorg)} + \text{organic part (Norg)}$ ; Alternative:  $TNb = \text{Ninorg.} + 2\text{mg Norg / l}$  (2mg/l are recommended to apply in the absence of measurements).

#### OSPAR HARPNU:

The following determinants are to be monitored on a mandatory basis:

<ul style="list-style-type: none"> <li>• Ammonia expressed as N</li> </ul>	<ul style="list-style-type: none"> <li>• Total P</li> </ul>
<ul style="list-style-type: none"> <li>• Total N</li> <li>• Nitrates expressed as N</li> </ul>	<ul style="list-style-type: none"> <li>• Orthophosphates expressed as P</li> </ul>

Source: *Guideline 7: Quantification and reporting of the monitored riverine load of nitrogen and phosphorus, including flow normalisation procedures*

#### UWWTPD 91/271/EEC:

"Total nitrogen means the sum of total Kjeldahl nitrogen (organic and ammoniacal nitrogen), nitrate-nitrogen and nitrite-nitrogen." It recommends applying molecular absorption spectrophotometry as reference method of measurement.

#### Assumption

It is assumed that large data differences (DK, DE and EE) are due to different estimation methods applied by different authorities and institutions, which taking samples at different intervals, applying different analytical methods and drafting reports, which serve different purposes.

#### Intermediate Results

Some of the earlier proposals (5-2 Proposal for a new approach to compile industrial discharges available for Helsinki\_LOAD8\_27-29Oct2014) followed by meeting decisions were already adopted by the PLUS team and are reflected in PLC reporting templates and database procedures.

**Fig 1:** Screenshot from annual reporting template, sheet point source background (ANNUAL\_REPORTING\_TEMPLATE\_FINAL\_26\_11\_2014.xlsx)

PLANT_CODE	PLANT_NAME	SUBCATCHMENT_CODE	SUBCATCHMENT_NAME	PERIOD_NAME	EU/ NATIONAL_CODE	PRTR_SECTOR_CODE	REPORTING_START	REPORTING_END
ADK0256	NORDBY BUGT HAVBRUG	SCDK00124	WEBBKSEA	2013	17	7	01.01.2006	
ADK0257	HAVBRUGET HUNDSHAGE	SCDK00124	WEBBKSEA	2013	18	7	01.01.2006	
ADK0258	AS VIG HAVBRUG	SCDK00124	WEBBKSEA	2013	19	7	01.01.2006	
ADK0259	BORRE I HAVBRUG	SCDK00124	WEBBKSEA	2013	20	7	01.01.2006	
ADK0260	BORRE II HAVBRUG	SCDK00124	WEBBKSEA					
ADK0261	ALROSUND HAVBRUG	SCDK00124	WEBBKSEA					
ADK0262	HJARNØ HAVBRUG	SCDK00124	WEBBKSEA					
ADK0263	BØRUP SANDE HAVBRUG	SCDK00124	WEBBKSEA					
ADK0264	FLÆKJØET HAVBRUG	SCDK00124	WEBBKSEA					
ADK0265	BÅGØ HAVBRUG	SCDK00124	WEBBKSEA					
ADK0266	ALS HAVBRUG	SCDK00124	WEBBKSEA					
ADK0267	BARSD LAKS	SCDK00124	WEBBKSEA					
ADK0268	BARSD HAVBRUG	SCDK00124	WEBBKSEA					
ADK0269	MUSHOLM LAX A/S, ØST	SCDK00124	WEBBKSEA					
ADK0270	SKALØ HAVBRUG	SCDK00124	WEBBKSEA					
ADK0271	RÅGØ HAVBRUG	SCDK00124	WEBBKSEA					
ADK0272	FEJØ HAVBRUG	SCDK00124	WEBBKSEA					
ADK0273	AFT-BISSERUP HAVBRUG	SCDK00124	WEBBKSEA					
ADK0274	KONGSNÆS HAVBRUG	SCDK00124	WEBBKSEA					
ADK0275	GRØNSUND HAVBRUG	SCDK00124	WEBBKSEA					
ADK0276	ONSEVIG HAVBRUG	SCDK00124	WEBBKSEA	2013	42	7	01.01.2006	
ADK0277	MUSHOLM LAX A/S, VEST	SCDK00124	WEBBKSEA	2013	53	7	01.01.2006	
ADK0278	MAXIMUS A/S	SCDK00122	KATDKSEA	2013	10	7	01.01.2006	
ADK0279	ASNÆS FISKEOPDRÆT	SCDK00124	WEBBKSEA	2013	13	7	01.01.2006	
ADK0308	BAPDK DIRAQUACULTURE	SCDK00121	BAPDKSEA	2013		7	01.01.2013	
ADK0309	KATDK DIRAQUACULTURE	SCDK00122	KATDKSEA	2013		7	01.01.2013	
ADK0310	SOUDK DIRAQUACULTURE	SCDK00123	SOUDKSEA	2013		7	01.01.2013	
ADK0311	WERBK DIRAQUACULTURE	SCDK00124	WEBBKSEA	2013		7	01.01.2013	
IDK0002	A/S STOREBELTSFORBINDELSEN	SCDK00124	WEBBKSEA	2013	301		01.01.1995	
IDK0003	AFFALDSDEPOT 251 102 ØSTERGADE	SCDK00122	KATDKSEA	2013			01.01.1995	
IDK0005	AKAFA AMBA (MD FOODS AMBA)	SCDK00122	KATDKSEA	2013	48		01.01.1995	

**FORMAT: CHAR(1);  
VOLUNTARILY ONLY FOR INDIVIDUAL PLANTS**

**MORE DETAILED INSTRUCTIONS CAN BE OBTAINED IN  
[http://prtr.ec.europa.eu/docs/Summary\\_activities.pdf](http://prtr.ec.europa.eu/docs/Summary_activities.pdf)**

**SECTORS TO BE ENTERED**

**1 = Energy sector,  
2 = Production and processing of metals,  
3 = Mineral industry,  
4 = Chemical industry,  
5 = Waste and wastewater management (to be used for MWWTPs) ,  
6 = Paper and wood production processing,  
7 = Intensive livestock production and aquaculture (to be used for AQUACULTURE),  
8 = Animal and vegetable products from the food and beverage sector,  
9 = Other activities**

The link to the nine industrial sectors of the E-PRTR will help identifying point sources, which were included other registers. Estimates reported for PLC sources should correspond to estimates available in these registers provided that definitions were harmonised.

### Action required

The Meeting is invited to:

- consider and discuss whether the correspondence table could be used as an accompanying tool that supports the assurance of PLC data quality
- agree that Table 1 should be updated with data to become available through the PLC periodical reporting exercise
- note that competent authorities (DE, DK and EE) are expected to verify 2010 estimates and provide new data where necessary and to recommend that HELCOM PRESSURE contacts could act as mediators.
- ask Contracting Parties to consider closer national cooperation towards harmonized data sets, which facilitate institutions in charge of developing scientific and policy analyses; the nutrient indicators and, reduction scenarios (MAI and CART).
- agree that the templates' column "EU/ NATIONAL\_CODE" should be used for codes, which correspond either to the UWWTP Directive (Example: DETP\_SH3000 for UWWTP, ZKW Hansestadt Lübeck, size= 427.500PE) or to E-PRTR (Example: 13-30-9991437, UWWTP Rostock).
- mandate the authors of this document to revise provisions that relate to INDUSTRY in the draft PLC-6 guidelines, accordingly (e.g. the table of parameters/substances relevant for both PLC loads and PRTR releases exceeding the thresholds)
- invite Russia to agree on streamlining with EU reporting as far as practical.