Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall e. V.
German Association for Water, Wastewater and Waste

6 March 2023

Statement on the

EU Urban Wastewater Treatment Directive

(European Commission proposal of 26 October 2022)

The EU Urban Wastewater Treatment Directive ('UWWTD', 91/271/EEC) of 21 May 1991 has significantly improved the discharge and treatment of wastewater from households and specific industries, thereby making a considerable contribution towards strengthening water protection. After completing its evaluation process, the European Commission presented a proposal to revise the directive - which sets out minimum requirements under European law - on 26 October 2022. In doing so, the institution wants to reconfigure European law on wastewater disposal with a long-term perspective and also promote the Zero Pollution Action Plan as part of the Green Deal.

Summary assessment of the draft proposal

In the DWA's opinion, revising the UWWTD is a meaningful step towards ensuring that urban wastewater disposal in Europe can continue to make an important contribution to keeping water bodies clean and achieving good water status in the future. The DWA strongly supports the achievement of the Water Framework Directive's objective of good water status. The Commission proposal also addresses various points raised by the DWA in its position papers on the revision of the UWWTD, such as strengthening the polluter pays principle by introducing extended producer and product responsibility in the water sector. However, questions remain as to how this can be implemented in German law, and swift solutions are needed.

The DWA had also repeatedly underscored the very different levels of progress made in implementing the UWWTD in Europe. We noted that the revision must aim to achieve uniformly good implementation and implementability of the European minimum requirements. This goal has been achieved with varying degrees of success with the proposal, which we will discuss in detail.

The European Commission's projection that the initiative would increase current financial expenditure by 3.79% is not very convincing and appears to be far too low. It is already difficult to comprehend why the increase associated with the UWWTD's wastewater-related rules makes reference to both wastewater and drinking water expenditure. There are other questions too. Additional expenditure as a result of the initiative is likely to be higher in Germany than the European Commission assumed.

Furthermore, the proposal makes very extensive use of delegating acts (the Commission is empowered to do so in six cases). This approach allows the Commission to set requirements subsequently using the comitology procedure, which is a departure from the ordinary co-decision procedure. The same applies to the nine points where the European Commission is empowered to adopt implementing acts and thus make decisions about how requirements are

fleshed out and implemented. Even though this step may be rooted in the fundamentally appropriate goal of simplifying the UWWTD, it must be reviewed carefully in each individual case.

Specific comments

Re: Article 2 Definitions

(1)-(3) urban wastewater, domestic wastewater, non-domestic wastewater

The definition of 'urban wastewater' clusters domestic wastewater, non-domestic wastewater and the mixture of domestic wastewater and urban runoff under a single term. The 'mixture of wastewater' is linked with an 'OR' clause. This can create ambiguities if the precise meaning is not clear in the specific context. If 'urban wastewater' includes the 'mixture of water' (sanitary sewage and stormwater), this should be worded more clearly using an 'AND' link. Providing a terminological distinction between dry weather flow and combined sewer flow also appears advisable.

This article also fails to classify and designate infiltration water. This component, which is widespread in dry weather flow, urgently needs to be listed separately, defined accordingly and integrated into further regulations.

(4) agglomeration

The term chosen to differentiate requirements, actions and the timetable for their implementation is aligned with the size of wastewater treatment plant catchment areas and the plants' capacity. Other criteria are useful in the case of graduated requirements for handling storm water using separate sewer systems, but also for assessing the relevance of structures with combined sewer overflows within the sewer system. We address these criteria in our comments on Article 5.

(5) and (7) urban runoff, collecting system

The definitions solely relate to closed channels and pipelines (conduits) and exclude open collecting systems for urban runoff. Such elements are becoming increasingly important in future strategies for water-sensitive urban drainage using 'blue-green infrastructure'.

(6) Storm water overflow

The directive introduces the term 'storm water overflow', which makes reference to 'combined sewers.' It is hard to understand why it does not use or retain the term 'combined sewer overflow', which is customarily used in English-language terminology until now. This central piece of terminology is not defined, either. It is also important to explicitly designate the structures where overflow events occur in an 'orderly' manner (in Germany: combined sewer overflow, combined sewer overflow basins, storage sewers with overflow).

(14) Sludge
"Sludge means any solid, semisolid, or liquid waste resulting from the treatment of urban wastewater".

In addition to sludge, wastewater treatment processes also separate screenings, grit from grit separators and grease, which are not and should not be referred to as sludge. This definition

hence needs to be changed. European Standard EN 16323 (2014-07) already defines the term ‘sludge’. This definition should be adopted so that the UWWTD does not introduce meanings of terms that deviate from technical standards and give rise to significant misunderstandings. It is not clear why the proposal should make this substantive change. The definition of ‘sludge’ should therefore be taken over from EN 16323, as follows.

Sludge: *Mixture of water and solids separated from various types of wastewater during primary, secondary or tertiary treatment (→* EN 16323:2014-07, Nr. 2.3.7.23)

Note: Other wastes resulting from wastewater treatment are in particular:
- *screenings (→* EN 16323:2014-07, No *2.3.2.14),*
- grit (from *grit separators →* EN 16323:2014-07, No 2.3.2.4)
- grease (from *grease separators→* EN 16323:2014-07, No 2.3.2.5)

Re: Article 3 Collecting Systems

Why do points (1) b and (2) b setting out requirements for connection to the collecting system only refer to domestic wastewater? It is imperative to add commercial/industrial wastewater (non-domestic wastewater) to this clause.

Re: Article 5 Integrated urban wastewater management plans

Article 5, Point 2 (c) lists a criterion for identifying agglomerations for which ‘integrated urban wastewater management plans’ are to be established. First of all, it should be noted that the agglomeration appears to have only limited suitability as a target criterion for establishing differentiated requirements for the discharge of storm water and combined sewer overflows. The proposal should add a reference to the size of the catchment area for a discharge point and/or the level of dry weather flow in relation to the connected area.

The wording of Article 5, point 2 (b) states that the target criterion shall apply if “*storm water overflow represents more than 1 % of the annual collected urban wastewater load, calculated in dry weather conditions.*” Annual storm water overflow relates here to the annual load of collected wastewater discharged to the treatment plant under dry weather conditions. Clarification is needed on the following points:

- Does ‘load’ refer to ‘volumes’ or explicitly to ‘pollution loads’? If the latter is the case, the relevant substance parameter(s) must be listed.
- If the ‘wastewater load’ refers to material loads, it must be noted that determining loads in the combined sewer overflow is very complex from a measurement standpoint and fraught with considerable uncertainties in pollution load modelling. Alternatively, this process can be carried out in a highly simplified manner by making very rough assumptions about average concentration values. Uniform implementation of this target criterion throughout Europe hardly seems feasible. Furthermore, it is unclear what ‘1 %’ actually refers to: a ‘mixture of domestic and non-domestic wastewater during days of dry weather (no rain!) or calculated for 365 days of the year?

The 1% figure seems questionable.

- It seems more appropriate to reference wastewater discharged in the overflow volume because a) water pollution is caused by the wastewater rather than infiltration water and b) comparability is more possible with

reference to wastewater than when also considering infiltration water in dry weather flow that varies extremely in terms of times and space.

- Quaranta et al (2022) present[1] figures on the combined sewer overflow volume as annual values based on a Europe-wide estimate from the Joint Research Center (JRC). The share of dry weather flow in the overflow volume is specified in each case. The resulting percentages of 'dry weather flow share in combined sewer overflow' lie in a wide range between 3 and 17 % (see Table 1). This indicates the difficulty of specifying a uniform numerical value as a target criterion throughout the EU.

Table 1: Europe-wide estimate of annual combined sewer overflow (CSO) volumes; according to Quaranta et al. (2022).

Member State	FUA Population	Impervious surface (ha)	CS share (Pistocchi et al, 2019)	V_{CSO} (Mm^3/y)	V_{DWF} (Mm^3/y)	DWF share in CSO
LV	1.211.846	8.163	0,50	6	1	17%
SK	1.854.749	24.822	0,08	6	1	17%
LT	2.069.485	18.648	0,50	15	2	13%
EE	842.163	9.523	0,50	8	1	13%
FI	2.660.816	54.976	0,18	27	3	11%
DK	3.787.829	72.766	0,50	104	11	11%
BE	6.443.432	92.960	0,92	259	27	10%
PL	22.380.223	227.646	0,92	414	43	10%
UK	45.980.602	523.449	0,70	1207	123	10%
LU	492.047	11.299	0,90	42	4	10%
HU	5.261.016	62.501	0,33	42	4	10%
SE	5.228.647	70.410	0,12	22	2	9%
IE	2.902.400	33.383	0,24	34	3	9%
ES	29.506.445	265.935	0,13	92	8	9%
MT	376.851	4.611	1,00	12	1	8%
FR	44.417.942	660.121	0,32	841	68	8%
CY	652.116	10.737	1,00	27	2	7%
SI	929.883	12.465	0,59	57	4	7%
IT	32.378.354	348.709	0,70	1287	90	7%
HR	2.031.614	24.521	0,59	86	6	7%
PT	5.707.432	78.154	0,34	164	11	7%
EL	6.504.849	47.319	0,39	63	4	6%
DE	59.968.345	1.034.050	0,46	773	35	5%
NL	11.728.632	172.986	0,73	135	6	4%
AT	4.588.740	74.345	0,28	59	2	3%

The 1% target criterion established in Article 5, point 2 (b) largely depends on the substance parameter selected or to be considered and the associated ratio of typical average concentration values in wastewater (or dry weather flow) and urban runoff - with reference to the load in dry weather flow. The following CT/CS ratios are examples of typical 'calculated values' in German practical experience or according to the aforementioned source (UBA 2020)[2] :

COD: CT/CS = 600 mg/l : 120 mg/l = 5.0

BOD5: CT/CS = 300 mg/l : 20 mg/l = 15

Total N: CT/CS = 50 mg/l : 3.3 mg/l = approx. 15

Total P: CT/CS = 12 mg/l : 0.25 mg/l2 = 48

[1] E. Quaranta, S. Fuchs, E. Liefting, A. Schellart, A. Pistocchi (2022): European hydrological model to estimate pollution from combined sewer overflows. Journal of Hydrology: Regional Studies 41 (2022) 101080.

[2] Source: Federal Environment Agency (2020): Priority substances in municipal wastewater treatment plants - A Germany-wide harmonised monitoring. UBA Texts 173/2020.

Two case studies illustrate the difficulty of applying the 1% target to substance loads of selected substance parameters.

(1) Practical example from DWA-A 102-2 worksheet (DWA 2020)

Schmitt (2021)[3] further analysed the practical example for DWA-A 102-2 using a pollution load simulation. The parameters of this fictitious project area resulted in calculated annual dry weather runoff of approx. 1.19 million m^3 and annual stormwater runoff of approx. 0.45 million m^3. The long-term simulation established an annual discharge rate of approx. 36 %, i.e. approx. 0.16 million m^3, based on the long-term average volume of annual stormwater runoff. In volume terms, this would represent approx. 13 % of the annual dry weather flow.

On average, the concentration in the combined sewer overflow would have to be a factor of 13 lower than in dry weather flow in order to fall below the 1 % target in the above-mentioned interpretation of the planned UWWTD rules. In the case of COD, this is mathematically impossible without targeted material retention in the combined sewer overflow.

By way of comparison: the simulation study (Schmitt 2021) calculated the share of dry weather flow in the overflow volume at approx. 0.01 million m^3 (10,000 m^3); this corresponds to just under 0.9 % of annual dry weather flow volume.

(2) Metropolitan project area (anonymised)

The annual volume of dry weather flow for a metropolitan project area (approx. 550,000 inhabitants, DCA approx. 70 km^2) is calculated to be approx. 40 million m^3/a, with storm water runoff of approx. 18 million m^3/a. The long-term simulation indicates a long-term average combined sewer overflow volume of approx. 2.8 million m^3/a, including approx. 0.23 million m^3/a of dry weather runoff. The overflow volume therefore amounts to approx. 7 % of the annual dry weather flow. To fall below the 1 % target, concentration levels in the combined sewer overflow would have to be lower on average by a factor of 7 than in the dry weather flow, which seems difficult to achieve for COD.

By way of comparison: the share of dry weather runoff in the overflow volume is determined to be just under 0.6 % of the same reference value.

Our recommendation

The DWA calls for an adjusted target criterion. This criterion establishes the volume of wastewater in the annual combined sewer overflow volume as it relates to the associated annual values. In any case, a volume-related criterion is preferable. This option is initially independent of substance parameters and allows for differentiation based on the relevance of individual material components as water pollution in the specific case. In light of the aforementioned range of Europe-wide numerical values for this criterion, a uniform criterion should be specified, but not contingent on a numerical value. Member States should first conduct a survey of their ‘current status’ to establish this criterion and formulate individual milestones for achieving the target.

[3] Source: Schmitt T.G. (2021): Mixed sewerage 2021 - Quo Vadis? KA Correspondence Wastewater, Waste (68), No. 6, June 2021.

Re: Article 7 Tertiary treatment

Art. 7 establishes tertiary treatment for all wastewater treatment plants treating a load of 100,000 p.e. or more and for plants treating a load of 10,000 p.e. or more in areas sensitive to eutrophication.

Art. 7 para. 4 requires compliance with the concentration values set out in Annex I Part D Table 2 (daily mixed sample) for the above-mentioned wastewater treatment plants:

- 0.5 mg/l or 90 % elimination for total P
- 6 mg/l or 85 % elimination for total N

Art. 7 para. 5 allows for alternative proof that a minimum percentage of reduction is achieved on the whole:

- Total P : 90 % (until 2040)
- Total N: 85 % (until 2040)

The proposed provisions represent a significant tightening of monitoring values. In its position paper on the revision of the UWWTD in September 2021, the DWA had previously advocated for the stricter concentration values set out Table 1 of the UWWTD (old), but explicitly warned against tightening European minimum requirements for nitrogen and phosphorus. We are against the concentration targets set out in the Commission proposal as they are overly ambitious and call for their deletion.

This is especially true given strict national requirements for checking compliance with the values (qualitative random sample or 2h composite sample instead of the 24-hour readings established in European law). The DWA sees a need for considerable clarification here. The methodology for monitoring compliance with these requirements must now be standardised to ensure better comparability under European law. The European legal requirement must also be transposed into national law during implementation of the directive.
Measures to further reduce nutrient levels at wastewater treatment plants are required from an immissions standpoint to achieve the objectives of the Water Framework Directive as part of enforcement, where necessary. This water body-related approach is appropriate.
Moreover, diffuse sources (especially industrial agriculture) account for a large part of water pollution in this context, which cannot be reduced by imposing stricter discharge requirements at urban plants. Stricter national requirements are possible where needed from a water body perspective and where measures at the source have been exhausted or are not possible.

Re: Article 8 Quaternary treatment (eliminating micropollutants)

Art. 8 para. 1 requires the installation of a fourth treatment stage for all wastewater treatment plants treating a load of more than 100,000 p.e. by 2035. By 2030**,** 50% of discharges from wastewater treatment plants treating a load of more than 100,000 p.e. are to be equipped with a quaternary treatment stage.

The DWA welcomes the fact that the proposal is combined with active policy to avoid and reduce the discharge of harmful substances to improve water protection. In this context, the DWA also supports retrofitting more advanced treatment stages at urban wastewater treatment plants as an important pillar on the road to solving the problem. The introduction of persistent, mobile and toxic substances into the water cycle needs to be reduced while assessing the risk on a source-related, application-related and downstream basis. Retrofitting

wastewater treatment plants and extended producer responsibility are just as necessary as instruments outside the scope of the UWWTD (such as application restrictions and consumer education, etc.). The high financial cost and amount of energy needed for quaternary treatment mean that it should not be introduced universally by law, but rather everywhere where it makes sense in terms of water bodies or use. We urge European lawmakers to ensure that the UWWTD's provisions do not, in combination with other regulations such as the Environmental Quality Standards Directive (EQS Directive), lead to a blanket obligation. A practical overall strategy is needed.

The 2030 target lacks a clear definition of the percentage reference value (e.g. wastewater volume, wastewater load, connected inhabitants, number of wastewater treatment plants?), which is needed for implementing the targets. The DWA calls for a clear load reference (= plant size).

Art. 8 para. 2 also requires that quaternary treatment stages be expanded to all wastewater treatment plants treating a load of over 10,000 p.e. in sensitive areas (risk-based approach) by 2040.

The proposal sets out a risk-based approach for the introduction of a quaternary treatment stage. The DWA essentially welcomes this approach because a blanket requirement to equip all wastewater treatment plants with a quaternary treatment stage cannot be justified, if only because of energy required, and will also not lead to the receiving water body being classified as reaching good status.

Under Art. 8 para. 2 of the proposal, Member States must draw up a list of areas where the concentration or accumulation of micropollutants represents a risk for human health or the environment. This review process shall especially be performed for surface water bodies used for abstraction of drinking water, bathing water and other water bodies where the environmental quality objectives of the Water Framework Directive may not be met. The list is to be submitted to the European Commission on a regular basis.

Solutions to the following issues must be found during implementation:

- When applying for a permit to discharge wastewater, wastewater treatment plant operators will have to take into account the outcome of a risk assessment performed by the Member State, or possibly even by the operators themselves. The question is which risk should be assessed. While this approach may still be manageable for the receiving water to meet or fail to meet certain environmental quality objectives, it seems more difficult for assessing a health risk or the maximum permissible load of a surface water used for drinking water supply. In the case of drinking water supply, it is the water supplier's treatment technology that matters, even though the Water Framework Directive aims to keep surface waters as clean as possible so that only a basic treatment technology is required (Art. 7 para. 3 WFD). The health assessment is likely to mean human health and not that of the organisms present in the water body. The draft proposal provides little guidance here, not even in Art. 18. The European Commission reserves the right to establish concrete specifications in this regard (Art. 8 para. 3 of the draft). The authorisation to adopt implementing acts should be linked to more concrete specifications on how the 'areas of risk' should be determined.

- The provision also raises the question of how to assess pre-existing pollution at the receiving water body caused by other wastewater discharges. Even lawful wastewater discharge can cause such a high level of pre-existing pollution of the receiving water body that the 'last' wastewater treatment plant operator discharges exactly the amount of pollutants that can lead to the environmental quality objective being exceeded and

the risk coming to pass. However, this wastewater treatment plant operator could discharge its wastewater without prior treatment with a quaternary treatment stage if the water body were not already pre-polluted. Competent authorities would therefore have to draw up an overall strategy for all wastewater discharges into a water body, including, if necessary, the partial revocation of existing discharge permits or the imposition of further treatment measures. Comparable criteria should apply nationwide. The management plan or the programme of measures for the receiving water body are the appropriate venue.

Article 8(5) requires compliance with the requirements set out in Annex I, Part D, Table 3 for the aforementioned wastewater treatment plants. An average minimum reduction performance of 80 % is required for defined indicator substances. Compliance is to be achieved through official monitoring in accordance with the requirements set out in Annex I, Parts B and D (official monitoring with a frequency of twice a month to twice a week, depending on the size of the treatment plant).

On the one hand, the UWWTD proposal seeks to establish the quaternary treatment stage as state of the art for large wastewater treatment plants treating a load of more than 100,000 p.e. and require it for smaller wastewater treatment plants based on a risk assessment. This strategy imposes significantly higher requirements than the Orientation Framework from the German Federal Government's Micropollutant Strategy, which the federal states ('Länder') adopted to identify wastewater treatment plants relevant for expansion. In most cases, the proposal would result in a much larger expansion programme of wastewater treatment than set out in the Orientation Framework from the Federal Micropollutant Strategy, without significant impacts on water body status being expected. The planned amendments to the Environmental Quality Standards Directive (EQS Directive), which establish much stricter environmental quality standards, are likely to further extend the obligation to implement micropollutant elimination processes, and may even mean an impractical blanket introduction. The DWA does not support this.

The German Federal Government should advocate for requirements for quaternary wastewater treatment that are more closely aligned with the orientation framework of the German Micropollutant Strategy at the European level.

Re: Annex 1

Table 3: Requirements for quaternary treatment

Indicators	**Minimum percentage of removal**
Substances that can pollute water even at low concentrations (see Note 1)	80%

The requirements should refer to annual mean values and not the 24-hour composite sample. Otherwise, the provisions can hardly be met, especially in the case of mixed water inflow or plants with flow-proportional treatment.

Re: Article 9 Extended Producer Responsibility

Art 9 states that a financing system borne by the distributors of certain medicinal and cosmetic products fully covers the costs of investing, operating and monitoring a quaternary treatment stage. The design of this system will subsequently be shifted to Member States and the affected industry.

The DWA welcomes the planned introduction of extended producer responsibility at European level. The principle of product-related environmental protection is enshrined in European law and must be developed and implemented in a suitable manner for water law too. A proper strategy for reducing water pollution by micropollutants is built on various pillars and includes all contributors to water pollution. In this sense, manufacturers, importers or processors and distributors of products that may pose a risk to water bodies when used as intended must also deem to be 'polluters'. It is logical to enshrine extended producer responsibility in water law, as has already taken place in waste law. In principle, however, this approach relates not just to contributions to financing measures, but also to regulatory steps.

The provisions should be specifically detailed at European level to such an extent that there is equal handling in Member States and pharmaceutical and cosmetic products from non-European states do not enjoy advantages in order to guarantee equal opportunities for competition.

Furthermore, this provision must be designed to be technology- and process-agnostic and make sure that micropollutant elimination processes are not excluded from the obligation to cover costs because they improve reduction performance in other areas as well as eliminate micropollutants. In case of doubt, costs are to be assumed on a proportionate basis. The DWA sees a need for clarification on this point.

From the DWA's point of view, the approach to introduce extended producer responsibility in the water sector is one of the most important regulatory points in the process of revising the UWWTD and must be incorporated into the revised directive.

The proposed de minimis limit of 2 t per year under Article 9 para. 2 a.) should be examined with regard to e.g. harmfulness of the products and possibilities of circumventing the regulation in the case of e.g. corporate restructuring or other organisational measures.

Re: Article 11 Energy neutrality of urban wastewater treatment plants

Re: Art. 11 Para. 1
Paragraph 1 introduces regular energy audits (every 4 years) for wastewater treatment plants and collecting systems. It is important to clarify that companies that, for example, implement an energy management system in accordance with ISO 50001, fulfil the obligations of paragraph 1. The required inclusion of methane emissions in energy audits should be limited to avoiding significant methane losses during anaerobic processes and sewage gas or digester gas recovery.

When transposing this directive into national law, German lawmakers should ensure that energy audits comply with the technical standards of the DWA-A 216 worksheet.

Re: Art. 11 para. 2

Paragraph 2 introduces an obligation for urban wastewater treatment plants to achieve **energy neutrality** "at national level" in stages by 2040. Germany's wastewater management sector is committed to climate protection and has been working continuously to improve energy efficiency for a long time. The DWA therefore fundamentally supports the path taken towards the goal of achieving energy neutrality. However, companies' task is to discharge and treat wastewater, thereby protecting the water body rather than to produce energy, even though all reasonable potential to do so should be tapped. Therefore, it would be better to focus on energy efficiency instead of energy neutrality.

Germany has already largely exhausted its potential for generating and using sewage gas to generate electricity and heat. In-house electricity generation stands at around 42 %. Wastewater treatment plants in Germany have a total electricity consumption of around 3,700 GWh/a. (extrapolated from data from the 2020 DWA performance record, coverage rate 84.7 %). With demands on wastewater treatment rising in the future (e.g. micropollutant elimination, phosphorus recycling), demand for electricity, in particular, is likely to increase further in the future (approx. 4,000 to 4,500 GWh/a). The energy neutrality clause would mean that additional renewable energy generation capacity of an estimated 2,500 GWh/a would have to be installed in 'urban wastewater treatment plants' in Germany. The installation of energy plants has not been the task of wastewater treatment plant operators until now. Many wastewater treatment plants do not have enough space for PV systems or wind turbines to install such capacities on site.

However, the trend in energy prices is making generating energy in-house increasingly attractive from an economic perspective. Operators are thus highly motivated to tap the potential to generate renewable energy at wastewater treatment plants. Therefore, there is no need to impose a legal requirement stipulating an increase in capacity at plants. Instead, incentives should allow operators to be more flexible in their involvement in ramping up renewable energy. This does not necessarily mean buying renewable energy on the free market. Energy neutrality could also be achieved by participating in the generation of renewable energy through inter-municipal cooperation or PPPs elsewhere. In this way, plants minimise their CO_2 footprint and advance the expansion of renewable energy without shifting operators' focus away from wastewater treatment to protect water bodies and towards energy generation.

From the DWA's point of view, the priority is to ensure that wastewater treatment plants provide the required treatment services as **efficiently** as possible in terms of their energy use. To this end, incentives should be created to implement the optimisation measures identified in energy audits. By doing so, they can unlock site-specific and economically and ecologically sensible potential savings and thus enhance energy efficiency.

Re: Article 17 Urban wastewater surveillance

Re: para. 1

The DWA welcomes the fact that the Commission proposal addresses the potential of wastewater surveillance to improve healthcare. Wastewater management can make important contributions to improving COVID monitoring and supporting pandemic monitoring. SARS-CoV-2 monitoring is representative of the monitoring of pandemics. The list of pathogens to be monitored is to be based on the WHO risk assessment. The DWA encourages intensive use of this option. This task must be clearly separated from the task of wastewater disposal (discharge and treatment) and funded separately in the event that the future legal framework requires that bodies responsible for wastewater disposal or wastewater treatment plant

operators are to perform sampling or analysis to this effect, as stated in the proposal. This is fundamentally a question of national implementation of the Directive's provisions. However, there may be consequences for the issue of the systematic structure of Art. 17 para. 1 UWWTD.

Re: para. 3

Weekly sampling to monitor SARS-CoV-2 in the event of a health emergency - as provided for in the draft proposal - is inadequate. The latest results of the COVIDready research project show that at least two samples per week are required to make a long-term prognosis or indicate the trend. Wastewater readings are subject to a very wide range of variations, so that reliable statements cannot be made based on one sample per week. In an acute situation, the DWA therefore recommends taking at least two samples per week and increasing the frequency if necessary. Where capacities do not permit, the number of sites may have to be reduced. Outside of a pandemic situation, one sample per week is sufficient. However, this approach only allows for a yes/no statement or a possibly inaccurate trend that emerges over several weeks/months.

The requirement that at least 70% of the national population be screened is very ambitious and must not lead to a health emergency not being established or declared. Moreover, this provision alone is not sufficient. The DWA sees a need for clarification here. For instance, when examining a wastewater treatment plant, do only people registered as living in the catchment area count? What about commuters who spend time in the region during the day? The COVIDready research project found that plants located in the immediate vicinity mostly show a very similar trend in this indicator. This is due to factors including the inaccuracy of the system and the small number of samples. Limiting the plants to be screened based on the size and the share of the total population could lead to certain regions receiving too many measurement points and other regions too few. In rural areas, for example, only a few plants would meet the size criterion, so that the picture of the pandemic would remain inaccurate. The provision should ensure that measuring points are distributed in a regionally sensible manner and that local conditions, such as increased commuter movements (also across Member State borders, for example), are respected.

Re: para. 4

The DWA welcomes the fact that antimicrobial resistance is to be monitored in large plants in future. This problem must be taken seriously. Wastewater and sewage sludge can contribute to the spread, but they are not hotspots. Antimicrobial resistance is on the rise in places where antibiotics are used universally, e.g. in industrial agriculture. Reserve antibiotics are also still used there, further increasing the risks. Wastewater treatment plant monitoring therefore only maps a small section of the problem. Diffuse inputs should also be monitored elsewhere through appropriate regulations.

The DWA supports sampling of wastewater treatment plant effluent twice a year. Sampling the inlet or wastewater system requires much more effort and, in particular, properly trained specialists. In such cases, sampling takes place upstream of the screen and grit chamber, so the technology used is susceptible to malfunctions. In addition, explosion protection requirements must be observed. In this respect, the costs for these measurements must be covered as part of preventive health care measures.

Re: Article 20 Sludge

First of all, it is important to fundamentally consider whether the provisions of Art. 20 in the UWWTD are necessary at all. The factual connection means that the regulations would be better included in an EU Sewage Sludge Directive. Under Article 20, paragraph 2, the

Commission should be empowered to set minimum reuse and recovery rates for phosphorus and nitrogen from sludge through delegated acts in order to bring to bear the available technologies for the recovery of phosphorus and nitrogen. The recovery of nitrogen **from sludge** is not technically feasible, as nitrogen is only present in a small proportion in sewage sludge. **In Article 20, paragraph 2, the words "*and nitrogen from sludge*" in the 3rd line and "*and nitrogen*" in the 4th line should therefore be deleted**.

The agricultural spreading of sewage sludge will be largely restricted in Germany from 2029 onwards. At the same time, phosphorus recovery will be mandatory with high recovery targets of 50% (for recovery from sewage sludge) and 80% (for recovery from sewage sludge ash). The investments needed to install the necessary technical infrastructure (sewage sludge incineration plants and phosphorus recovery plants) runs into billions of euros. Member States where agricultural spreading is not possible or only possible to a limited extent due to national regulations will fundamentally need new technology requiring huge investments. It should also be pointed out that, as mentioned earlier, the recovery targets must not refer to e.g. screenings or grit from grit separators, in the definition of sludge.

In the view of the DWA, introducing far-reaching new requirements, such as the definition of recycling rates, requires a regular legislative procedure. Article 20, paragraph 2 should therefore be deleted. Paragraph 1 already includes a fundamental obligation to recycle as much as possible. Further defining the extent to which new techniques for nutrient recovery are to be introduced, or with which recovery rates, should be left to the Member States so that they can implement solutions tailored to their situation.

Re: Article 21 Monitoring

Paragraph 2 states that the concentration and loads of pollutants from combined sewer overflow and urban runoff shall be monitored in agglomerations treating a load of more than 10,000 population equivalents. The following sampling frequencies are listed:

> 100,000 p.e.: twice a year

10,000 - 100,000 p.e.: once every two years

It is important to note that:

- Individual sampling or sampling of a single event (combined sewer overflow or rainfall event) is not very meaningful in this frequency due to the extremely wide spectrum of different precipitation, runoff and overflow events and is also worthless as 'raw data' for assessing the resulting water pollution.

- The proposal calls for monitoring 'loads'. Insofar as 'pollution loads' are meant, this would require a coordinated measurement of discharges and corresponding substance concentrations. This effort for a single event is extremely uneconomical.

- It remains unclear whether all emission points should be mapped. Discharge measurements and sampling at all storm water discharges could hardly be implemented in practice.

- It does not say which substances are to be analysed. The list containing references to other directives only refers to wastewater treatment plants.

The monitoring regime for combined sewer overflows and storm water discharge into surface waters envisaged by the Commission is not suitable for analysing the state of knowledge of water pollution using these factors. **This rule therefore requires a fundamental overhaul.**

Our recommendation

The proposal should replace these sampling provisions with a recommendation or requirement that Member States initiate suitable measuring programmes. These programmes should systematically record pollution load parameters in coordinated campaigns for selected catchment areas, overflow structures and storm water overflows in order to improve the state of overall knowledge on the pollution of the aforementioned runoff components and the resulting water pollution. This approach can reveal correlations between the type and use of runoff areas and the level of the expected pollution from storm water runoff along with pollution categories depending on the area's use. The idea would be to perform monitoring using methods adapted to the target and from this to use a representative data set for a certain time.

An approximate estimation of the distribution of the load in the catchment could be thus be gained if coordinated with readings of treatment plant input and evaluated accordingly (e.g. the ratio of wastewater/infiltration water/rainwater is determined using indicative parameters). For this purpose, however, the evaluation would have to be specified in the appendix. Sampling of individual structures should be coordinated (e.g. all combined sewer overflow and storm water discharge structures in a sub-catchment area at the same time).

Furthermore, operators should be recommended or required to gradually equip relevant structures with measuring devices that automatically register the frequency and duration of overflow events and thus allow for a more extensive, structure-related assessment.

Re: Article 24 Information to the public

The newly introduced Article 24 of the UWWTD requires that adequate and up-to-date information on urban wastewater collection and treatment is made available to the public in each agglomeration. Providing this data is unproblematic, but collecting it is problematic from DWA's point of view. The required step to show charges for individual households cannot be carried out directly, as wastewater charges in Germany are levied based on the volume of freshwater consumed, i.e. per connected unit, and rainwater charges are based on the connected area.

Annex 6

Annex 6 specifies the provisions of Article 24 and contains more detailed definitions of the information to be made available to the public.

The required public transparency about total investment costs and annual total operating costs is desirable. However, providing the required amount of data on the cost structure would create a considerable additional burden, especially for smaller operations. Moreover, urban municipalities cannot break down costs per household alone. Other stakeholders would have to be involved in order to draw conclusions about the required data based on the volume of freshwater purchased. The breakdown of costs required in the UWWTD far exceeds the stipulations of the EU Drinking Water Directive. The Drinking Water Directive only states that information be provided about the charging system in relation to one cubic metre of water, including fixed and variable costs, taking into account the supplier's size and not specifically broken down for each consumer. The collection effort of the UWWTD should be harmonised with the requirements in the drinking water sector.

There is a lack of uniform European measurement and accounting procedures for determining the required data on avoided and generated CO_2 equivalents through greenhouse gas emissions. Reliable statements cannot be made about greenhouse gas emissions without general rules to determine or establish a well-founded estimation of these values. The EU Drinking Water Directive does not yet include similar requirement for data on electricity/energy, either.

The data required in Annex 6 is very extensive. Its provision involves a high administrative burden both for the implementation and for the updates during the year that can hardly be managed by small businesses. Municipalities or associations with less than 100,000 p.e. should not be obliged to provide the required data. The UWWTD's requirements should be adapted to those of the EU Drinking Water Directive in order to harmonise the directives at the EU level.

Re: Annex 1 Requirements for Urban Wastewater

Under point A. Collecting Systems, the third indent only contains a very general statement on the problem of storm water overflows:

-Limitation of pollution of receiving waters due to storm water overflows.

No reference is made to further regulations, e.g. in EN752 or in Article 5 or Annex 5. Water pollution caused by pollutants in storm water runoff (separate system) is not mentioned at all.

Re: point D.

Para. 3, Samples for micropollutants

Two samples per week are to be taken for micropollutants at plants with a size of >= 50,000 p.e.. The samples usually have to be sent to an external laboratory for analysis. Apart from incurring additional costs, this process entails an additional burden, especially for smaller wastewater treatment plants.

Two samples per week do not need to be taken to monitor compliance with targeted micropollutant elimination. After a proper start-up phase (with appropriate analytical support), it makes more sense to provide evidence of proper operation via the operating settings (e.g. dosing quantities, bed volumes). One sample per month is sufficient in this case. The same should apply to smaller plants.

Para. 4 (d)

Since this regulation is intended to demonstrate the reduction rate, micropollutants must be sampled in the wastewater treatment plant's inlet and outlet. Sampling frequency can be reduced significantly for this purpose.

Re: Annex 5 CONTENT OF THE INTEGRATED URBAN WASTEWATER MANAGEMENT PLANS

Point 2 (a) repeats the criterion from Article 5 for storm water overflows. Our remarks related to Article 5 apply accordingly. The recommendation derived from the criticism is repeated here:

Our recommendation

The DWA calls for an adjusted target criterion. This criterion establishes the volume of wastewater in the storm water overflow as it relates to the associated annual values. In any case, a volume-related criterion is preferable. This option is initially independent of substance parameters and allows for differentiation based on the relevance of individual material components as water pollution in the specific case. In light of the aforementioned range of Europe-wide numerical values for this criterion, a uniform criterion should be specified, but not contingent on a numerical value. Member States should first conduct a survey of their 'current status' to establish this criterion and formulate individual milestones for achieving the target.

The target criterion 'share of wastewater in combined sewer overflow' proposed as an alternative can be calculated as part of the dynamic analysis of the stormwater runoff or storm water runoff called for under point 1 (b) as a long-term simulation.

The DWA previously published a position paper on the revision of the EU Urban Wastewater Directive in September 2021, which we also refer to here. The document is available for download at www.dwa.de (https://de.dwa.de/de/positionspapiere-5979.html).

Hennef, 6 March 2023

Contact address:
Johannes Lohaus
Spokesman of the Federal Executive Board of the
DWA
German Association for Water, Wastewater and Waste e. V.
Theodor-Heuss-Allee 17, 53773 Hennef
Tel.: + 49 2242 872-110
Fax: + 49 2242 872-8250 E-mail:
lohaus@dwa.de www.dwa.de

EU Transparency Register: 227557032517-09

The German Association for Water, Wastewater and Waste (DWA) is strongly committed to the development of secure and sustainable water and waste management. As a politically and economically independent organisation it is professionally active in the field of water management, wastewater, waste and soil protection. In Europe DWA is the association with the largest number of members within this field. Therefore it takes on a unique position in connection with professional competence regarding standardisation, professional training and information. The approximately 14 000 members represent specialists and executives from municipalities, universities, engineering offices, authorities and companies.