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The characteristics of industrial waste water conveyance and treatment systems

in the operation area of Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji m.st. Warszawy S.A.

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Introduction

Economic growth, in particular the increase of industrial production and intensification of agricultural activities, results in a number of challenges in the area of waste water collection and treatment. It should be noted that pollution related to industrial activities results in a gradual degradation of water resources, in particular of surface waters. What is important, the pollution is generated by practically all industry sectors.

The aforementioned phenomenon makes the task of water and sewage management companies highly demanding. Entities operating municipal sewage systems, when collecting waste water which contains harmful substances, take up the responsibility for the disposal and control of its circulation in the environment. On the other hand, industrial waste water poses problems related to the efficiency of municipal waste water treatment plants, hinders the biological treatment processes and pollutes the sludge, at the same time making sludge recycling difficult. Therefore, the proper management of a catchment area served by a given waste water treatment plant, by receiving waste water which meets the standards imposed by law, guarantees the reduction of the negative impact of the sewage system and waste water treatment plants on the environment. It is doubtless that the threats related to improper water and waste water management, including the risk of an uncontrolled discharge of substantial quantities of industrial waste water, require special surveillance, mostly in highly industrialised areas.

Given the above, Warsaw found it necessary to implement measures aimed at systematising knowledge on the processes related to industrial waste water treatment in the Warsaw agglomeration area. The authors have made an attempt to define both the characteristics of the actual systems as well as its characteristics in legal and institutional terms.

It should be noted that this attempt was undertaken both with a view to the well-being of local communities and the protection of natural environment in the Warsaw agglomeration area, but also with the entire Baltic Sea macroregion in mind. This is due to the fact that the agglomeration, being one of the largest industrial centres in the Baltic Sea region, constitutes an important part of the sea's catchment area. Therefore, the City of Warsaw, as a partner in the BEST project (Better Efficiency for Industrial Sewage Treatment)¹ took up the first attempt to develop a comprehensive description of the current status of industrial waste water treatment in waste water treatment plants operated by MPWiK in Warsaw. It is also worth noting that similar analyses are currently being prepared in other states belonging to the Baltic Sea catchment area. Thus, the measures being adopted as part of the BEST project will facilitate the analysis of local conditions of industrial waste water treatment, and will make it possible to perform a comparative analysis, and to exchange knowledge on good practices between individual states participating in the BEST project.

¹ The original project title: BEST – Better Efficiency for Industrial Sewage Treatment. The project is an international undertaking which covers most countries of the Baltic Sea catchment area (Finland, Estonia, Latvia, Russia and Poland) and is co-financed from the European Regional Development Fund as part of the Interreg Baltic Sea Region Programme.

The data collected in this report are to a large extent universal. This is due to the fact that a number of conclusions drawn from the analysis, including the legal characteristics and the collection of good practices can also become an important point of reference for other water and sewage management companies across Poland.

We also expect that this report will become a valuable source of knowledge for industrial waste water suppliers. As industry representatives have stated, numerous instances of exceeding the standard values or negligence are not intentional, but result from insufficient knowledge. Without doubt, in the times of overregulation, running business activities in line with law is not an easy task. On the other hand, the lack of generally accessible education opportunities, inconsistent interpretation of legal regulations, and the lack of uniform guidelines from public administration authorities often result in more or less serious instances of negligence on the part of enterprises in the field of environmental protection.

We hope that this report will not only serve as a source of knowledge, but will also initiate dialogue between the representatives of industries, water and sewage management companies, and public administration authorities. It seems that the exchange of knowledge and practical experience of all stakeholders is the best way to develop effective cooperation models based on partnerships, and not on the system of authoritative orders, bans and sanctions.

We are pleased to give you this report and we believe that the contained data will contribute in practical terms to water protection and help reach environmental goals.

Authors

Warsaw, 26 September 2019

I. The subject-matter and the objective of the report

This report has been prepared by CKSP sp. z o.o. with its registered office in Warsaw, ul. Mazowiecka 11/49, 00-052 Warszawa, KRS [*National Court Register No.*]0000562499 (hereinafter: **the “Economic Operator”**), contracted by, and for the exclusive use of, the City of Warsaw (**the “Contracting Authority”**).

1. The objective of the report

The objective of this Report is to create a comprehensive characterisation of the industrial waste water disposal and treatment system in the Warsaw agglomeration area.

The detailed objectives of the project include the diagnosis of the existing industrial waste water disposal and treatment system, and the identification of potential risks and problem areas affecting the stability of the system.

2. Analysis methods

The methods used in this study include

1. desk research entailing:
 - the analysis of generally accessible data on industrial waste water management, including their entering the sewage systems of water and sewage management companies;
 - Information given by Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji w m.st. Warszawie S.A. on the activities run by the company in the field of collecting and treating industrial waste water;
 - information collected by the City of Warsaw and public administration bodies;
 - statistical data and other generally accessible data;
2. the analysis of applicable laws in the field of legal requirements related to industrial waste water management, in particular the analysis of legal conditions of system operation, and the scope of tasks, rights and obligations of the individual participants of the system.

3. Disclaimer

The legal part of this study reflects the interpretation of legal regulations adopted by the Economic Operator. The Economic Operator does not warrant that bodies applying the laws will share the interpretation in a specific matter.

As regards the analytical and statistical part, the Economic Operator endeavoured to act with due diligence at the data processing stage. However, the Economic Operator shall not be held liable for any erroneous, incomplete or inconsistent data provided by public administration bodies and other entities.

II. The list of legal acts

Acts and EU law²

- kpa** The Act of 14 June 1960 - The Code of Administrative Procedure (Journal of Laws of 2018, item 2096, as amended)
- kc** The Act of 23 April 1964 - The Civil Code (consolidated text, Journal of Laws of 2018, item 1025, as amended)
- usg** The Act of 8 March 1990 on Commune Local Government (consolidated text, Journal of Laws of 2019, item 506, as amended);
- The Waste Water Directive** Council Directive of 21 May 1991 concerning urban waste water treatment (91/271/EEC) (OJ EU L 135, 30.05.1991, p. 40, as amended)
- uioś** The Act of 20 July 1991 on the Inspection of Environmental Protection (consolidated text, Journal of Laws of 2019, item 1355, as amended)
- ucpg** The Act of 13 September 1996 on maintaining cleanliness and order in communes (consolidated text, Journal of Laws of 2018, item 1454, as amended)
- ugn** The Act of 21 August 1997 on Real Property Management (consolidated text, Journal of Laws of 2018, item 2204, as amended)
- The Water Framework Directive** Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ EU L 327, 22.12.2000, p. 1, as amended)
- POŚ** The Act of 27 April 2001 - Environmental Protection Law (consolidated text, Journal of Laws of 2019, item 1396, as amended)
- uzzw** The Act of 7 June 2001 on public water supply and public waste water collection (consolidated text, Journal of Laws of 2019, item 1437, as amended)
- The old Water Law** The Act of 18 July 2001 - The Water Law (consolidated text, Journal of Laws of 2017, item 1121, as amended) - this legal act ceased to be in force as a result of adopting the Water Law
- upzp** The Act of 27 March 2003 on spatial planning and land development (consolidated text, Journal of Laws of 2018, item 1945, as amended);
- The NACE Regulation** Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains (OJ EU L393/1, 30/12/2006)
- The Environmental Act** The Act of 3 October 2008 on the provision of information on the environment and environmental protection, social participation in environmental protection, and on environmental impact assessments (consolidated text, Journal of Laws of 2018, item, 2081, as amended)
- uo** The Waste Act of 14 December 2012 (consolidated text, Journal of Laws of 2019, item 701, as amended)
- PW or the Water Law** The Act of 20 July 2017 - The Water Law (consolidated text, Journal of Laws of 2018, item 2268, as amended)

² The legal acts in given groups have been arranged in chronological order, from the oldest to the most recent. Legal status as at 6 September 2019.

Amended uzzw The Act of 27 October 2017 on amending the act on public water supply and public waste water conveyance (consolidated text, Journal of Laws of 2017, item 2180, as amended)

Regulations

- Roz.wtb** The Regulation of the Minister of Infrastructure of 12 April 2002 on the technical conditions applicable to buildings and their location (Journal of Laws of 2019, item 1065)
- Roz.odś** The Regulation of the Minister of Construction of 14 July 2006 on the methods of performing the duties of industrial waste water suppliers and the conditions of releasing the waste water to sewage facilities (consolidated text, Journal of Laws of 2016, item 1757, as amended)
- Roz.wwno** The Regulation of the Minister of Infrastructure of 17 October 2002 on discharging liquid waste to septage receiving stations (Journal of Laws of 188, item 1576)
- Roz.wda** The Regulation of the Minister of Infrastructure of 12 November 2002 on the requirements applicable to vacuum trucks (Journal of Laws of 2002, No. 193, item 1617)
- Roz.geo** Regulation of the Minister of Administration and Digitisation of 9 July 2014 on providing access to the state land surveying and cartographic resources, issuing permits and template Fee Calculation Document (Journal of Laws of 2014, item 917)
- Regulation on the types of systems** The Regulation of the Minister of the Environment of 27 August 2014 on the types of systems which can cause significant pollution of individual natural-environment elements or the environment as a whole (Journal of Laws of 2014, item 1169)
- Roz.ko** The Regulation of the Minister of the Environment of 9 December 2014 on the waste catalogue (Journal of Laws of 2014, item 1923)
- Regulation on the increased fee amount** The Regulation of the Council of Ministers of 27 December 2017 on defining the amount of increased fees for violating the conditions of releasing waste water into water or ground (Journal of Laws of 2017, item 2501)
- The Agglomeration Regulation** The Regulation of the Minister of Maritime Economy and Inland Navigation of 27 July 2018 on the method of setting agglomeration areas and boundaries (Journal of Laws of 2018, item 1586)
- Roz.wsp** The Regulation of the Minister of Maritime Economy and Inland Navigation of 1 March 2019 on the list of priority substances (Journal of Laws of 2019, item 528)
- Roz.ssdś** The Regulation of the Minister of Maritime Economy and Inland Navigation of 28 June 2019 on the substances particularly harmful to the aquatic environment the discharge of which in industrial waste water to sewage facilities requires a water law permit (Journal of Laws of 2019, item 1220)
- Regulation on industrial waste water** The Regulation of the Minister of Maritime Economy and Inland Navigation of 8 July 2019 on the permissible quantities of pollutants which may be discharged with industrial waste water (Journal of Laws of 2019, item 1300)

The Waste Water Regulation The Regulation of the Minister of Maritime Economy and Inland Navigation of 12 July 2019 on the substances that are particularly harmful to the aquatic environment and the conditions to be met upon discharging them into water or ground, and upon discharging rain water and thaw water onto the water or to water facilities (Journal of Laws of 2019, item 1311).

Local laws

Resolution on the Warsaw agglomeration Resolution No. 169/12 of the Regional Council of the Mazowieckie Province of 12 July 2012 on the liquidation of the existing Warsaw agglomeration and delimiting a new agglomeration (Official Journal of the Mazowieckie Province of 2012, item 5557)

Resolution on the Pruszków agglomeration Resolution No. 65/17 of the Regional Council of the Mazowieckie Province of 25 April 2017 on the liquidation of the existing Warsaw agglomeration and delimiting a new Pruszków agglomeration (Official Journal of the Mazowieckie Province of 2017, item 4388)

Resolution on the Serock agglomeration Resolution No. 148/14 of the Regional Council of the Mazowieckie Province of 28 April 2014 on delimiting the Serock Agglomeration (Official Journal of the Mazowieckie Province of 2014, item 4438)

Reg. ucp Resolution No. LXI/1631/2018 of the Warsaw City Council of 8 February 2018 on the terms and conditions of maintaining cleanliness and order in Warsaw (Official Journal of the Mazowieckie Province of 2018, item 1968, as amended)

Reg. dwoś Resolution No. XV/375/2019 of the Warsaw City Council of 4 July 2019 on adopting the terms and conditions of water supply and waste water conveyance in the areas of Warsaw, Michałowice, Nieporęt, Raszyn, Serock, Wieliszew communes, and the towns of Piastów and Pruszków (Official Journal of the Mazowieckie Province of 2019, item 9019)

III. Definitions of the main statutory terms

Agglomeration means an area where the population and/or economic activities are sufficiently concentrated for urban waste water to be collected and transported to a waste water treatment plant or to a final discharge point;

Legal basis: Article 86(3)(1) of the Water Law

Final discharge point of municipal waste water means the location where the public sewage system for handling municipal waste water in agglomerations without a waste water treatment plant is connected to the public sewage system for handling municipal waste water in an agglomeration having a waste water treatment plant.

Legal basis: Article 86(3)(3) of the Water Law

Liquid waste Waste water temporarily collected in septic tanks

Legal basis: Article 2(1)(1) of ucpg

Waste Each substance or item which holders dispose of, intend to or are obliged to dispose of.

Legal basis: Article 3(1)(6) of uo

- Regulatory body** Director of the regional water management authority of the “Wody Polskie” State Water Management Enterprise (Państwowe Gospodarstwo Wodne Wody Polskie); a regulatory body supervising public water supply and public waste water conveyance, in particular the activities of water and sewage management companies;
Legal basis: Article 2(4) of uzzw
- General use of waters** General use of waters is aimed at satisfying individual or household needs and agricultural needs without applying special technical devices, as well as for the purpose of leisure activities, tourism, water sports, and, under separate legal regulations, leisure fishing.

Legal basis: Article 32(2) of the Water Law
- Water law permit** An administrative decision issued pursuant to the Act of 20 July 2017 - the Water Law, which entitles a given entity to use water resources (e.g. a water law permit for the discharge of waste water into water), which is a form of a licence to take up specific activities resulting in the use of water resources; there are still valid water law permits which were issued prior to 1 January 2018 under the old Water Law of 2001;
Legal basis: art. 388 et al. of the Water Law; no statutory definition;
- Integrated permit** An administrative decision issued pursuant to the Act of 27 April 2001 - Environment Protection Law which entitles a given entity to use the natural environment; such integrated permit is required for the construction of systems whose operation, due to the type and scale of activities, may cause a substantial pollution of individual elements of the natural environment or the environment as a whole, excluding systems or their parts applied solely for research into, development or testing of, new products or technological processes; integrated permits supersede partial environmental consents (e.g. water law permits), covering all forms of environmental impact and their outcomes;
Legal basis: art. 201 et al. of POŚ; no statutory definition
- A water and sewage management company** An enterprise within the meaning of the Act of 6 March 2018 - Enterprise Law (Journal of Laws, items 646,1479, 1629, 1633 and 2212) if it runs business activities consisting in public water supply and/or public waste water conveyance, and municipal organisational entities without a legal personality running such type of activities.

Legal basis: Article 2(4) of uzzw
- Lateral line** a section of a pipe joining the drainage system in a service recipient's real property with the sewage system past the first inspection chamber from the side of the building, and if there is no inspection chamber, to the boundary of the land property;
Legal basis: Article 2(5) of uzzw
- p.e. (population equivalent)** means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day;

Legal basis: Article 86(3)(2) of the Water Law
- Agglomeration p.e.** means population equivalent of an agglomeration, taking into account waste water from:

- 1) permanent residents of the agglomeration, where 1 p.e. is equivalent to 1 permanent resident of the agglomeration;
- 2) industry within the agglomeration, whereas the load is calculated pursuant to Article 86(3)(2) of the Act of 20 July 2017 - the Water Law;
- 3) persons temporarily staying in the agglomeration, where 1 p.e. corresponds to one registered accommodation place.

Legal basis: § 2 of the Agglomeration Regulation

Network means water supply and/or sewer lines with plumbing appurtenances and facilities used to supply water and collect waste water and owned by water and sewage management companies

Legal basis: Article 2(7) of uzzw

Septage receiving stations Mean systems and facilities located near collecting sewers or waste water treatment plants aimed at collecting liquid waste transported by vacuum trucks from where it is generated.

Legal basis: Article 2(1)(3) of ucpg

Special use of waters Means the use of water which goes beyond the general use of water and normal use of water, including water entering sewage facilities owned by other entities generating industrial waste water which contains substances that are particularly harmful to the aquatic environment, as defined in legal regulations adopted pursuant to Article 100(1) of the Water Law;

Legal basis: Article 34 of the Water Law

Tariff means a publicly announced list of prices and rates for public water supply and public waste water conveyance services, and the conditions for applying thereof;

Legal basis: Article 2(12) of uzzw

Service recipient tariff group means a group of recipients formed on the basis of the characteristics of water use or waste water discharge, the conditions of public water supply and public waste water conveyance, as well as on the basis of the settlement method for the services rendered;

Legal basis: Article 2(13) of uzzw

Sewage facilities sewage networks, outfalls of sewage facilities used for releasing waste water into water or ground, pre-treatment and treatment facilities, and waste water lift pump stations;

Legal basis: Article 2(14) of uzzw

Water facilities Facilities or structures used to manage or use water resources, including: a) damming, flood-control and river-training facilities and structures, as well as channels and ditches, (...) f) outfalls of sewage facilities used for releasing waste water into water or ground or to water facilities, and outfalls applied to discharge water into waters or ground, or to water facilities (...);

Legal basis: Article 16(65) of the Water Law

Water services Water service provide households, public bodies and businesses with access to water in the scope exceeding general use of water, normal use of water and special use of water. The water supply service portfolio includes the discharge of waste water into water and ground, and to water facilities;

Legal basis: Article 16(65) of the Water Law

Septic tanks Systems and facilities intended for collecting liquid waste on the site of its generation;

Legal basis: Article 2(1)(5) of ucpg

Normal use of water Normal use of water is aimed at satisfying the needs of a household and of agricultural enterprises

Legal basis: Article 33(3) of the Water Law

IV. List of abbreviations used in the Report

BEST	Better Efficiency for Industrial Sewage Treatment
CEIDG	Central Business Register and Information Service
Service provider	A water and sewage management company as defined in The act - a term used under Reg.dwoś
GUS	Statistics Poland
Project owner	A natural person, a legal person or an organisational unit without a legal personality intending to build a lateral line or a water service - a term used under Reg.dwoś
MPWiK or the Company	Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji w m.st. Warszawie Spółka Akcyjna (Warsaw Municipal Water and sewage management company)
KPOŚK	The National Municipal Waste Water Treatment Programme
KRS	The National Court Register
NACE Rev. 2	The statistical classification of economic activities in the European Union - NACE Revision 2 (<i>in French: Nomenclature statistique des Activités économiques dans la Communauté Européenne</i>)
NSA	The Supreme Administrative Court
PKD	Polish classification of economic activities (PKD-2007 is consistent with NACE Rev.2 classification)
p.e.	population equivalent
RZGW	Regional Water Management Authority
SN	The Supreme Court
EU	European Union
City of Warsaw	City of Warsaw Office
Wody Polskie	„Wody Polskie” [Polish Waters] State Water Management Enterprise (Państwowe Gospodarstwo Wodne Wody Polskie)
WSA	The Provincial Administrative Court

Part 1.

The characteristics of the legal framework for discharging industrial waste water

Part 1.

The characteristics of the legal framework for discharging industrial waste water

The Polish legal system lacks legal regulations which would comprehensively define the principles of handling industrial waste water. To the contrary, the regulations in this field can be found in numerous legal acts of various status, and cover not only laws governing the state system, but also a number of technical standards related to the ways of fulfilling the obligations of industrial waste water suppliers, and the conditions for discharging such waste water to sewage facilities.

It should be stressed that the legal framework related to water and waste water management is to a great extent a transposition of EU laws. One of the most important acts worth noting here is Council Directive of 21 May 1991 concerning urban waste water treatment (91/271/EEC) (OJ EU L 135, 30.05.1991, p. 40, as amended). The Waste Water Directive sets out the principles of collection, treatment and discharge of municipal waste water, as well as treatment and discharge of waste water from certain industry sectors across the European Union. In practice, the Waste Water Directive sets the legal framework for waste water management and the operation of municipal waste water treatment plants. What is important, the Directive, being a legal act aimed at harmonising law, is not applied directly to a given matter, but requires implementation by adopting relevant legal acts in individual EU Member States. Although the provisions of the Waste Water Directive will not be subject to further detailed analysis in this study, we should bear in mind that a substantial part of the provisions in the Polish legal system reflects the legal requirements arising from the provisions of the Directive.

Another EU law which has a significant influence on the regulations governing water and waste water management is the Water Framework Directive, i.e. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ EU L 327, 22.12.2000, p. 1, as amended).

In addition to the legal acts at EU or national level, local laws, including the terms and conditions of water supply and waste water conveyance as one of the most important one, play a major part as regards the practical aspects of the discharge of industrial waste water. It should be remembered that water and sewage management companies providing services in the field of industrial waste water collection are obliged to set the prices in a manner strictly defined by law, and the final tariff, i.e. the list of prices and fees for industrial waste collection is subject to approval by a regulatory body. The above circumstances affect not only the scope of rights and obligations imposed on enterprises and water and sewage management companies, but are also reflected to a smaller or greater degree in the legal relationships between waste water suppliers and water and sewage management companies. In other words, the contents of public waste water conveyance agreements are often a result of a number of legal provisions which can be found in legal acts of various status.

As a result, the attempt to grasp the legal and formal requirements related to discharging industrial waste water requires a comprehensive legal analysis from at least two perspectives. The complexity of legal regulations governing this area makes it difficult for the interested entities to apply them. Inconsistent terminology and unspecified relations between individual legal institutions are factors which make the application of these regulations complex.³

Given the above, and with the objectives of this Report in mind, further deliberations will focus predominantly on the requirements imposed on entities which generate industrial waste water and discharge such waste water to the municipal system or handle it in another way. Nonetheless, the attempt to characterise the system requires the identification of key participating entities, together with defining their rights and obligations.

1. Overview of the institutional system of industrial waste water discharge

The system of industrial waste water discharge is not a uniform one. In other words, under the current legal status, individual entities may apply various methods of managing industrial waste water. It should be stressed that the selection of a specific method of industrial waste water management by a given entity depends on numerous factors. These include local conditions (e.g. possibility of connecting to the municipal sewage network), geographical conditions (e.g. distance between the entity's plant and the receiving water body, i.e. the river), economic conditions (e.g., the scale of activities and potential savings related to handling waste water independently), or technical aspects (e.g. the specific nature of the production system and the waste water generated as a result of its operation).

Nevertheless, it is possible to distinguish the following four basic models of industrial waste water management:

- Model 1.** Discharging waste water to sewage facilities owned by other entities, including in particular the municipal sewage system (i.e. discharging industrial waste water directly to the sewage network);
- Model 2.** Collecting waste water in the form of liquid waste in septic tanks, and discharging it in septage receiving stations via entities providing services in the field of emptying septic tanks and transporting liquid waste;
- Model 3.** Discharging waste water from the plant sewage system directly to the environment on the basis of a water law permit or an integrated permit⁴;

³ For more details see: J. Rotko, *Pozwolenie wodnoprawne na wprowadzanie ścieków przemysłowych do urządzeń kanalizacyjnych [Water law permit for discharging industrial waste water to sewage facilities]*, „Przegląd Ustawodawstwa Gospodarczego” No. 3/2013, pp. 11-12.

⁴ Both the integrated permit and the water law permit may refer to the use of water resources, including the discharge of industrial waste water. Both permits differ in terms of the scope of using the environment. The integrated permit refers to the use of numerous natural environment elements, whereas the water law permit refers only to the use of water resources. This stems from the fact that

Model 4. Managing waste water generated by an industrial facility as waste and subjecting it to the operation of relevant disposal or recovery processes.

From a practical point of view, the key methods of managing industrial waste water are based on municipal sewage systems, and the discharge of industrial waste to municipal waste water treatment plants (Model 1 and Model 2). Industrial waste water may be delivered by both direct discharge to the sewage network and by transport by vacuum trucks (so called “gully emptiers”) to septage receiving stations located on site of waste water treatment plants or other places, from where the waste water is transported to the waste water treatment plant. It should be stressed here that waste water discharged to municipal waste water treatment plants, notwithstanding the fact whether they are transported directly to sewage facilities, or via septage receiving stations, cannot exceed permissible pollution levels. In other words, pollutants which can be found in waste water should be eliminated or limited on the site of waste water generation. As a result, industrial plants are usually obliged to pre-treat industrial waste water before it is discharged to the sewage network or collected by an entity responsible for handling liquid waste.

From the perspective of this analysis and the assumptions behind the BEST project, it is important to manage industrial waste water within municipal treatment systems, if Model 1 or Model 2 is applied. Bearing in mind all the related social, economic and environmental consequences, further analysis will focus on institutional, formal and legal conditions related to discharging such type of waste water to municipal treatment plants.

1.1. Public waste water discharge as a task entrusted to commune authorities

The commune is a key body in the public waste water discharge system. Under Article 7(1)(3) usg, one of the tasks entrusted to communes, the basic local government units, includes matters related to “water supply systems and the supply of water, sewage, removal and treatment of municipal waste water, maintaining cleanliness and order, and providing sanitary facilities.” Thus, the legislator imposed very important obligation on the commune, which not only involves meeting the public

the integrated permit refers to systems whose operation, due to the type and scale of activities, may cause a substantial pollution of individual elements of the natural environment at the same time (e.g. land, mineral deposits, water or air). Hence the name “integrated” indicates that the scope of numerous environmental consents is integrated in a single document.

The types of systems which might cause substantial pollution of individual natural environment elements or the environment as a whole are defined in the Regulation of the Minister of the Environment of 27 August 2014 (Journal of Laws, item 1169). If a given system has been entered in the aforementioned list, there is no doubt that an integrated permit is required. For instance, such systems include certain waste management systems (i.a. a thermal waste treatment system for waste other than hazardous waste, with a capacity of over 3 tonnes per hour). This means that such integrated permit can cover both the permit for discharging waste water into water and waste treatment. Hence the name “integrated” indicates that the scope of numerous environmental consents is integrated in a single document. As regards water law permits, only one natural environment element is covered by protection, namely water resources, so the extent of using environmental resources is, as a rule, not as wide under a water law permit as under an integrated permit.

needs of local communities, but also plays an important role from the perspective of environmental protection⁵.

While the Act on commune local government sets the general tasks of communes, the details on their obligations and competences are set out in separate legal regulations. The detailed information on commune's own tasks in this area has been laid down in the Act of 7 June 2001 on public water supply and public waste water collection (consolidated text, Journal of Laws of 2018, item 1152, as amended). It is worth noting that the said Act defines the principles and conditions of the public supply of water intended for human consumption and public waste water conveyance, including the principles of

- a. operation of water and sewage management companies,
- b. the creation of conditions for uninterrupted water supply and appropriate quality of water, as well as reliable waste water collection and treatment,
- c. the protection of interests of service recipients, taking into consideration environmental and cost optimisation requirements.

Moreover, the uzzw act defines the procedure of approving tariffs and the capacity of the regulatory body and its tasks. From the perspective of industrial waste water suppliers, a set of laws defining the principles related to industrial waste water supply is also significant.

What is important, pursuant to Article 3 of uzzw, public water supply system and public waste water conveyance belong to commune's own tasks. In addition, according to the provisions of uzzw, if communes cooperate in fulfilling the said task, the rights and obligations vested in commune bodies are respectively performed by the relevant bodies of

- 1) unions of communes,
- 2) a commune indicated in an agreement between communes.

It should be stressed that the obligations set out in the uzzw are being performed jointly by several communes within the Warsaw agglomeration. Under the agreement between communes of 2005, the communes of Michałowice, Nieporęt, Raszyn, Serock, Wieliszew, and the towns of Piastów and Pruszków entrusted the City of Warsaw with the tasks covering the public water supply system and public waste water conveyance. As a result, the City of Warsaw authorities (Warsaw City Council and the Mayor of Warsaw, respectively) have been exercising the rights and performing the obligations laid down in uzzw which had been entrusted to the aforementioned communes.

Without going into further detail, pursuant to Article 3(1) of uzzw, "public waste water conveyance" belongs to commune's own tasks. According to the statutory definition set out in Article 2(20) of uzzw, public waste water conveyance means "activities entailing the conveyance and treatment of waste water, performed by water and sewage management companies." It can be asserted that such activities are the core of operations of commune authorities in the field of public water supply

⁵ For more information on commune's tasks related to environmental protection, see: A. Barczak, E. Kowalewska, *Zadania samorządu terytorialnego w ochronie środowiska [The tasks of local government in environmental protection]*, Warsaw 2015.

and public waste water conveyance. The aforementioned tasks are usually fulfilled by the commune through the agency of entities established exclusively for this purpose (e.g. commercial companies owned by communes) or as part of internal organisational structures. In addition to the above task, communes also perform a number of regulatory, organisational and urban planning activities. These include the capacity of a Commune Head (Town or City Mayor) to issue permits for public water supply and public waste water conveyance (Article 16 of uzzw), adopting terms and conditions for water supply and waste water conveyance (Article 19 of uzzw), and the performance of tasks related to defining the directions of network development in the study of commune land use conditions and directions and the local development plan.

As regards the tasks in the field of public waste water conveyance, it is worth mentioning that the legislator provided clear guidance in this respect. Pursuant to Article 86(1) of the Act of 20 July 2017 - the Water Law, agglomeration with a population equivalent exceeding 2000 should have a public sewage system for handling municipal waste water. As follows from the statutory definition, agglomeration means an area where the population and/or economic activities are sufficiently concentrated for urban waste water to be collected and conducted to a waste water treatment plant or to a final discharge point. As shown above, the population equivalent (p.e.) can be used as a criterion for assessing whether a given agglomeration is sufficiently "concentrated"⁶. In simple terms, it can be assumed that 1 p.e. corresponds to the quantity of waste water generated by one person in one day. Thanks to applying this indicator, for the purpose of defining the capacity of a waste water treatment plant designed for a given agglomeration, it is possible to include not only the waste water load from households but also from industrial plants located in a given area⁷.

The National Waste Water Treatment Programme (KPOŚK) was developed with a view to identifying the actual needs in the field of reorganising waste water management, and arranging their fulfilment so that the Treaty obligations are met. KPOŚK is a strategy document outlining the assessment of needs and the definition of activities aimed at providing sewage systems and waste water treatment plants in urban and rural agglomerations (with a p.e. over 2000). On 31 July 2017 the Council of Ministers adopted the fifth revised version of KPOŚK, containing a list of tasks planned by local governments for the years 2016-2021. The revised KPOŚK 2017 listed 1587 agglomerations with a p.e. over 2000. In total, all these agglomerations represent 38.8 million p.e., with 1769 waste water treatment plants located in their area⁸. As regards agglomerations with a p.e. under 2000, the authorities are not obliged to provide a public sewage system. In such event, waste water should be collected in septic tanks which meet the requirements laid down in uspg, or in private on-site

⁶ Pursuant to Article 86(3)(2) of the Water Law population equivalent shall be understood as the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day.

⁷ M. Kałużny, Komentarz do art. 43 ustawy Prawo wodne z 2001 r. [Commentary to Article 43 of the Water Law of 2001] [in:] Prawo wodne. Komentarz, wyd. 2 [The Water Law. A commentary; 2nd edition]; published by: WK, 2016.

⁸ For more details on the KPOŚK see Information materials and explanation to the legal regulations published on the website of Wody Polskie, accessed on 20 September 2019, <<https://www.kzgw.gov.pl/index.php/pl/materialy-informacyjne/programy/krajowy-program-oczyszczania-sciekow-komunalnych>>.

waste water treatment systems. In practice, project owners may build a waste water treatment plant for a given industrial plant or a housing estate.

It is worth noting that, as of 1 January 2018, the commune council is the competent authority to mark out agglomeration boundaries, pursuant to Article 87(1) of the Water Law⁹. Agglomerations are delimited by way of a resolution, which constitutes local law. Notwithstanding the rights of the commune, Commune Head or Mayor review the agglomeration area and boundaries every two years, taking into consideration the criterion for forming agglomerations referred to in Article 86(1) of the Water Act and the changes to the population equivalent values, and if necessary, inform the commune council of the need to change the agglomeration areas and boundaries.

It is also worth mentioning that communes have a number of obligations related to maintaining cleanliness and order. These tasks include:

- 1) the construction, maintenance and operation of septage receiving stations (Article 3(2)(2b) ucpg),
- 2) the maintenance of septic tank records (Article 3(3)(1) ucpg) and private on-site waste water treatment systems (Article 3(3)(2) of ucpg) to control the frequency of emptying septic tanks, and to develop a sewage network development plan.
- 3) the adoption of the terms and conditions of maintaining cleanliness and order in the commune (Article 4(1) of ucpg),
- 4) the supervision over the performance of duties imposed on real property owners (Article 5(6) of ucpg),
- 5) the adoption of maximum rates of fees paid by real property owners for emptying septic tanks and transporting liquid waste (Article 6(2) of ucpg),
- 6) the arrangement of septic tank emptying where real property owners have not entered into an agreement with an enterprise holding relevant licences (Article 6(6) of ucpg) – the so called substitute transport,
- 7) the issuance of permits to perform activities in the field of septic tank emptying and transporting liquid waste (Article 7(1)(2) of ucpg) and the maintenance of records of the issued and revoked permits (Article 7(6b) of ucpg),
- 8) the verification of reports filed by entities performing activities in the field of septic tank emptying and transporting liquid waste (Article 9p(1) and (2) of ucpg),
- 9) the supervision over compliance with and application of the provisions of the Act (Article 9u(1) of ucpg)

Although the aforementioned tasks do not refer expressly to waste water treatment, from the functional point of view they are related to such type of activities. This results from the fact that waste water generated in households and industrial plants in areas where it is not possible to

⁹ The detailed principles of delimiting agglomerations are laid down in the Regulation of the Minister of Maritime Economy and Inland Navigation of 27 July 2018 on the method of delimiting agglomeration areas and boundaries (Journal of Laws of 2018, item 1586, as amended).

connect them to sewage network are stored in septic tanks. Under the provisions of ucpg, such waste water is classified as liquid waste, defined as “waste water temporarily stored in septic tanks.” Such waste water is disposed by discharging in septage receiving stations, from where they are further transported to a waste water treatment plant. This means that such type of waste reaches sewage facilities operated by water and sewage management companies. In practice, the obligation to handle such waste water is imposed on municipal (communal) waste water treatment plants¹⁰.

1.2. The role of water and sewage management companies

While the commune is responsible for performing tasks related to public water supply and public waste water conveyance, water supply and management companies are entities which directly deal with the operation of the sewage network and waste water treatment. Pursuant to Article 2(4) of uzzw a water and sewage management company shall be understood as an enterprise within the meaning of the Act of 6 March 2018 - Enterprise Law if it runs business activities in the field of public water supply and/or public waste water conveyance, and municipal organisational units without a legal personality running such type of activities.

The legislator indicated two groups of entities which can be classified as a water and sewage management company - these are both enterprises and municipal organisational units without a legal personality. The condition required for recognising any of the entities as a water and sewage management company is running business activities in the field of public water supply and/or public waste water conveyance. Given the above, water and sewage management companies may adopt various organisational and legal forms - from commercial companies to enterprises owned by local governments.¹¹ Moreover, in some communes, the activities in the field of public water supply and public waste water conveyance are conducted directly by departments of commune offices established for the purpose. As a result, the obligations of the commune are performed directly by the commune office.

It should be stressed here that water and sewage management companies are obliged to ensure the capacity of water supply and sewage system facilities to perform water supply in required quantities and under appropriate pressure, and to supply water and convey waste water in a continuous and reliable way. Water and sewage management companies are also responsible for providing the proper quality of the supplied water and the discharged waste.

Moreover, pursuant to Article 15(1) of uzzw, water and sewage management companies are obliged to have sewage facilities built. This primarily includes the construction of such facilities as sewage

¹⁰ The waste water might, of course, be transported to plants other than municipal or communal waste water treatment plants, but for the purpose of this Report focus has been placed on municipal and communal plants.

¹¹ M. Maśliński, J. Bujny, *Przedsiębiorstwo wodociągowo-kanalizacyjne jako przedsiębiorca, na rzecz którego ustanawia się służebność przesyłu* [Water and sewage management companies as enterprises for which a transmission easement is established] [in:] *Służebność przesyłu w praktyce. Na przykładzie przedsiębiorstw wodociągowo-kanalizacyjnych* [The practical aspects of transmission easement. Case studies of water and sewage management companies], B. Rakoczy, Warsaw 2017, pp. 42-46.

networks, outfalls of sewage facilities used for releasing waste water into water or ground, pre-treatment and treatment facilities, and lift pump stations (Article 2(14) of uzzw). Pursuant to Article 2(7) uzzw, networks are understood as sewer lines with plumbing appurtenances and facilities used for the waste water conveyance and owned by water and sewage management companies. The obligation to have the aforementioned facilities built is not a theoretical obligation, as it is updated if it is laid down in the study of commune land use conditions and directions, and local land development plans, to the extent agreed under the multi-annual plan for the development and upgrade of water supply and sewage devices¹². It should be noted that the costs of construction works of lateral lines and the water meter chamber, the premises intended for the location of the main water meter and measurement device are incurred by persons applying for network connection.

It is worth noting that water and sewage management companies are entities which enter into civil law relationships with industrial plants in relation to providing services in the field of public waste water collection. Therefore, the interested industrial plant and a given water and sewage management company will be parties of agreements for the public waste water conveyance. For example, if such services are provided by a commercial company in the area of a given commune, such agreement is entered into between this company and the industrial plant. If the commune office directly provides services in the field of public water supply and public conveyance of water, the commune is a party to such agreement.

In consequence, the rights related to the performance of the aforementioned agreement are vested in a water and sewage management company. For instance, authorised employees of a municipal water and sewage management company are entitled to enter the real property or a building owned by an industrial plant to inspect the quantity and quality of waste water discharged to the network. Furthermore, depending on the adopted tariff and contractual provisions, water and sewage management companies may impose fees for violating the conditions of discharging industrial waste water to sewage facilities or potential relevant contractual penalties¹³. The above entitlement does not limit any entitlements of other entities, including commune authorities, arising from separate legal regulations and related to, e.g., environmental quality control.

1.3. Tasks of the regulatory body – “Wody Polskie” State Water Management Enterprise

One of the most important system changes related to the entry into force of the Water Law was the reorganisation of the organisational and legal structure of entities competent in water management matters. The „Wody Polskie” State Water Management Enterprise was established on 1 January

¹² B. Brynczak, *Komentarz do art. 15 uzzw* [Commentary to Article 15 of uzzw] [in:] *Ustawa o zbiorowym zaopatrzeniu w wodę i zbiorowym odprowadzaniu ścieków. Komentarz* [Act on public water supply and public conveyance of waste water. A commentary], K. Ubysz, B. Brynczak, on-line access via the LEX Legal Information System, marginal number 2.

¹³ The issue of control entitlements of water and sewage management companies on the example of MPWiK has been described in detail in Point 5.1 of Part 1 of this Report.

2018, and to a large extent “monopolised” the tasks related to water management. As a result, commune, district or provincial authorities, which had previously been entrusted with certain tasks, lost their competences to “Wody Polskie.” For instance, District Governors and Marshals of the Province have lost their capacity to issue water law permits as of 1 January 2018. What is more, the procedure and principles of issuing the permits have also changed¹⁴.

The above changes affected the public waste water conveyance market. As of 1 January 2018, “Wody Polskie” (as a rule, competent director of a given catchment area authority) has had jurisdiction in matters concerning water law permits for discharging industrial waste water containing substances that are particularly harmful to the aquatic environment to sewage facilities owned by other entities. This means that both the issuance of water law permits and proceedings in the matters of their expiration, revocation, limitation or amendments fall within the capacity of “Wody Polskie.”

From the perspective of water and sewage management companies, the establishment of “Wody Polskie” means that a new regulatory body entered the market of public waste water conveyance. Pursuant to Article 27a of *uzzw*, introduced under the Act of 27 October 2017 on amending the Act on public water supply and public waste water conveyance and certain other acts (Journal of Laws of 2017, item 2180), the regulatory body overseeing the water and sewage market is the director of regional water management authority of “Wody Polskie” State Water Management Enterprise. Thus, the legislator decided to transfer the existing regulatory capacity of communes to one of the bodies operating within “Wody Polskie”¹⁵, and entrust such bodies with new tasks. The main task of the regulatory body is the approval of tariffs, i.e. the approval of prices and fee rates for public water supply and public waste water conveyance.

The competences of the regulatory body also include issuing opinions on draft terms and conditions of water supply and waste water conveyance, resolving disputes between water and sewage management companies and service recipients, or imposing fines for excessive prices or fee rates, or for violating the obligation to submit them for approval with the regulatory body. The body also conducts the monitoring of the entire sector, reflected in reports on the conditions of running business activities in the field of public water supply and public waste water conveyance.

Notwithstanding the regulatory functions, catchment area authorities within “Wody Polskie” also deal with calculating and charging fees for water services. This mostly refers to fixed and variable fees

¹⁴ For more details see: M. Maśliński, *Nowe Prawo wodne. Czy oznacza wydatki dla przemysłu spożywczego?* [The new Water Law. Does it mean new expenditures for the food industry?] *Kierunek Spożywczy* 3/2017.

¹⁵ It is worth mentioning that the jurisdiction of directors of RZGW Wody Polskie [“Polish Waters” Regional Water Management Authority], and the operation area of individual regulatory bodies, due to the water management based on catchment areas, do not correspond to province boundaries. The jurisdiction of 7 directors of regional water management authorities within the structures of the “Wody Polskie” State Water Management Enterprise in matters of public conveyance of waste water is defined in the Appendix to Regulation of the Minister of Maritime Economy and Inland Navigation dated 9 March 2018 (Journal of Laws of 2018, item 510).

for releasing waste water into waters or ground. Finally, "Wody Polskie", or rather catchment area authorities to be precise, deal with charging increased fees for releasing waste water to waters or ground without the required water law permit or integrated permit.

1.4. The tasks of the Inspectorate of Environmental Protection

The entities operating within the Inspectorate of Environmental Protection, established to control compliance with environmental protection laws and to examine and assess the state of the environment, also play an important part in the industrial waste water conveyance system.

Firstly, the tasks are being performed towards entities which discharge waste water directly into water or ground. If a given industrial plant discharges waste water to the municipal sewage system, the entity which is subject to inspection in this respect is the water and sewage management company, as it is the holder of relevant water law (integrated) permits. This results from the fact that in such an event the operator of a waste water treatment company, namely the water and sewage management company, is the entity which directly discharges waste water to the environment. If the conditions set out in the water law permit are violated, a competent authority of the Inspectorate of Environmental Protection charges an increased fee for releasing waste water into water or ground in breach of the conditions set out in the water law permit or the integrated permit.

If a given plant operated its own industrial waste water treatment plant, such industrial plant would be subject to inspection aimed at verifying whether the conditions set out in the water law (integrated) permit have been complied with. This does not mean, however, that such competent body of the Inspectorate of Environmental Protection cannot control the activities of the industrial plant in relation to its activities in the field of industrial waste water management. To the contrary, the nuisance to the environment that these activities might cause can be the basis for performing the so called intervention inspection (more details on this issue can be found in the chapter on waste water quality control - Point 5).

1.5. The role of entities dealing with emptying septic tanks and transporting liquid waste

This comprehensive description of the institutional system of industrial waste water conveyance cannot disregard the role of entities dealing with emptying septic tanks and transporting liquid waste. Such entities are responsible for the collection of liquid waste from industrial plants which have not been connected to the municipal sewage system. It should be stressed that liquid waste from these plants is in fact industrial waste water, and is treated in communal (municipal) waste water treatment plants.

Moreover, economic activities related to the collection and transport of liquid waste are subject to restrictions, i.e. they require a licence referred to in Article 7 of ucpg. The licence covering this field of activities is issued by a Commune Head or Mayor with a jurisdiction over the location of the service provision, and not over the registered office of the enterprise which is to provide the services.

The entities which perform such activities are, on the one hand, obliged to run their business in compliance with the technical requirements defined by the legislator¹⁶, and on the other hand to meet a number of other formal and legal requirements (e.g. record keeping). For instance, any entity running activities in the field of emptying septic tanks and transporting liquid waste is obliged to prepare quarterly reports on their operations. What is important, the aforementioned report should include information on the quantity of liquid waste collected in the commune area, divided by domestic waste water and industrial waste water (See: Article 9o(3)(3) ucpg).

1.6. Tasks assigned to other bodies

This overview of the institutional system was limited to entities which play a key role in relation to industrial waste water management. It should be noted that depending on the actual circumstances, the involvement of other competent bodies is possible. This mainly refers to provisions governing supervision and inspection activities. For example, pursuant to Article 362 of POŚ, the operation of a given system may be limited due to its negative environmental impact. According to this provision, if an entity using the environment has a negative environmental impact, environmental protection bodies may, by way of a decision, impose an obligation to:

- 1) reduce the environmental impact and the related risks;
- 2) and restore the proper condition of the environment.

Therefore, it is also possible to apply the provision in a situation where a given industrial plant handles industrial waste water in an inappropriate way (e.g. collects the waste water in leaking septic tanks). Pursuant to Article 378(1) of POŚ, district governor is the entity competent in environmental matters of reducing environmental impact and the risks it poses, and restoring the appropriate condition of the environment, as referred to in Article 362(1-3). It should be stressed that the District Governor always is the competent authority to issue decisions pursuant to Article 362 of POŚ, notwithstanding the nature of the project, and decide whether it is a project which might display a permanent environmental impact (See: Judgement of the Supreme Administrative Court in Warsaw of 2 October 2012, Case file: II OW 130/12).

1.7. The key participants of the industrial waste water discharge system and their obligations - summary

As pointed out in the introduction to this study, in the light of the current legal status the industrial waste water discharge system is not uniform. In other words, the list of participating entities and the roles they play depend on the methods of managing industrial waste water. Nonetheless, wishing

¹⁶ In the context of legal requirements related to running activities related to the conveyance of liquid waste, see the Regulation of the Minister of Infrastructure of 12 November 2002 on the requirements for vacuum trucks (Journal of Laws of 2002, No. 193, item 1617), and Regulation of the Minister of Infrastructure of 17 October 2002 on the conditions of discharging liquid waste to septage receiving stations (Journal of Laws of 2002, No. 188, item 1576, as amended).

to systematise the tasks of individual entities within the system, we can suggest the following division of tasks, rights and obligations.



THE COMMUNE

- ✓ performs own tasks in the field of sewage, municipal waste water collection and treatment, maintenance of cleanliness and order and maintenance of sanitary facilities,
- ✓ may perform these tasks in collaboration with other communes,
- ✓ for the purpose of performing such tasks, usually establishes commercial companies or commune-owned enterprises, which directly deal with asset management and enter trade relationships with service recipients,
- ✓ Commune Head or Mayor issues permits for public water supply and public waste water conveyance,
- ✓ The commune council adopts terms and conditions of water supply and waste water conveyance,
- ✓ The commune council adopts terms and conditions of maintaining cleanliness and order in the commune,
- ✓ defines the conditions of the extension of networks in the Study of commune land use conditions and directions, and local land development plans, and adopts a Plan for the development and upgrade of water and sewage facilities,
- ✓ The commune council delimits the boundaries of an agglomeration,
- ✓ provides the construction, maintenance and operation of receiving stations,
- ✓ keeps a record of septic tanks and private on-site waste water treatment systems,
- ✓ oversees the compliance of real property owners with their obligations.



WATER AND SEWAGE MANAGEMENT COMPANY

- ✓ directly operates sewage networks and deals with waste water treatment,
- ✓ is obliged to provide the capacity of sewage facilities, and to convey waste water in a continuous and reliable way,
- ✓ ensures proper quality of the waste water being discharged,
- ✓ is an entity which enters into agreements for the public conveyance of industrial waste water,
- ✓ authorised employees of a municipal water and sewage management company are entitled to enter a real property or a building owned by an industrial plant to inspect the quantity and quality of waste water discharged to the network,
- ✓ develops a multi-annual plan for the development and upgrade of water and sewage facilities owned by the company,
- ✓ prepares draft tariff list and submits an application for approval of the regulatory body,
- ✓ may charge fees/ fines to an industrial plant for violating the conditions of discharging industrial waste water to sewage facilities.



“Wody Polskie” State Water Management Enterprise

- ✓ The “Wody Polskie” enterprise is a state legal person within the meaning of Article 9(14) of the Act of 27 August 2009 on public finance, and it was established on 1 January 2018,
- ✓ is a competent authority in all matters related to water law permits for discharging to sewage facilities owned by other entities industrial waste water containing substances that are particularly harmful to the aquatic environment (as a rule, the locally competent director of the catchment area authority),
- ✓ is competent in all matters related to other water law permits, including permits for releasing waste water into water or ground,
- ✓ approves tariffs, including prices and fee rates for public water supply and public waste water conveyance,
- ✓ issues opinions on the terms and conditions of water supply and waste water conveyance,
- ✓ resolves disputes between water and sewage management companies and service recipients,
- ✓ charges fines for excessive prices and/or fee rates and for the non-compliance with the obligation to submit them for approval with the regulatory body,

- ✓ charges fees for water services, including for the discharge of waste water into water and ground (locally competent catchment area authorities),
- ✓ charges increased fees for the discharge of waste water into water and ground without the required water law permit or integrated permit (locally competent catchment area authorities).



The Inspectorate of Environmental Protection

- ✓ controls compliance with provisions of environmental protection laws, and studies and assesses the state of the environment,
- ✓ charges an increased fee for releasing waste water into water or ground in breach of the conditions set out in the water law permit or the integrated permit,
- ✓ may control by way of intervention nearly every entity in relation to identifying environmental nuisance,
- ✓ analyses the reports filed by entities using water services on the quantity and quality of waste water discharged into water or ground, to the extent defined in a relevant water law permit or an integrated permit.

2. Obligations of entities generating industrial waste water

2.1. The legal classification of waste water generated by industrial plants

Moving on to the detailed analysis of the obligations imposed on industrial waste water suppliers, it should first and foremost be stressed that the extent of such obligations will vary depending on the method of managing industrial waste water by these entities. This results from the fact that, in relation to similar types of activities, the waste water may be classified both as industrial waste water, and as liquid waste or waste. Therefore, the attempt to systematise the extent of obligations imposed on industrial waste water suppliers requires us to capture the essence of the notions of waste water, liquid waste and waste.

2.1.1. Industrial waste water

The term waste water has been defined in uzzw, the Water Law and POŚ. Pursuant to Article 2(8) of uzzw, waste water means “the discharge into water or ground of:

- a) water used for household or commercial purposes,

- b) liquid animal faeces, except liquid manure and slurry intended for agricultural use in a way and on terms defined in Title III Chapter 4 [of the Act of 20 July 2017](#) – the Water Law (Journal of Laws of 2018, item 2268 and of 2019, items 125 and 534) and in the provisions of [the Act of 10 July 2007](#) on fertilisers and fertilising (Journal of Laws of 2018, item 1259),
- c) leachate water from landfills and extractive waste disposal plants where hazardous extractive waste and extractive waste other than hazardous or neutral waste is stored, waste storage, recovery or disposal sites, used brine, therapeutic or thermal water,
- d) water from cooling circuits in power plants or CHP plants,
- e) mine drainage water, except for water pumped into rock mass, if the types and quantity of substances contained in the water pumped into rock mass are identical to the types and amounts of substances contained in the collected water, excluding non-polluted mine drainage water,
- f) used water discharged from flowing-water fish farming facilities characterised by non-consumptive water use if the quantity and type of substances contained in such water exceeds the values determined under conditions of releasing waste water into water defined in the water law permit,
- g) used water discharged from fish farming facilities or facilities for farming other aquatic organisms in standing-water ponds, if the production volume of the fish or aquatic organisms, understood as average annual weight growth of the fish or aquatic organisms in individual years of the production cycle exceeds 1500 kg from 1 ha of the usable area of the fish pond within this facility in one year of a given cycle.”

The legislator included the same definition in Article 16(61) of the Water Law and Article 3(38) of POŚ. It is worth noting that under the provisions laid down in the Act of 20 July 2017 the Water Law the category of ‘rain water and thaw water’ was excluded from the definition of waste water. In other words, as of 24 August 2017, rain water is not classified as waste water. A similar amendment was introduced in the Water Law and environmental protection laws, although under these legal acts rain water and thaw water ceased to be classified as waste water as of 1 January 2018.¹⁷

It should be stressed that the aforementioned legal acts also set out definitions of domestic waste water, municipal waste water and industrial waste water. The three notions can be understood in the following way:

- 1) **Domestic waste water** - means waste water from residential buildings, tourist accommodation establishments, and public utility buildings, which originates predominantly

¹⁷ As regards the Water Law, the amendment was related to the adoption of the Act of 20 July 2017 – the Water Law (Journal of Laws of 2017, item 1566), i.e. the new Water Law. The delay of the amendment in this respect was related to the annual settlement periods applicable to entities which pay fees for the use of the environment.

from the human metabolism and from household activities, as well as waste water of similar composition discharged from such buildings (Article 2(9) of uzzw, Article 16(62) of the Water Law, and Article 3(38a) of POŚ)

- 2) **Municipal waste water** - means domestic waste water or a mixture of domestic waste water and industrial waste water, or rain or thaw water from rainfall or snow fall, conveyed via facilities used for the performance of commune's own tasks in the field of sewage and treatment of municipal waste water (Article 2(10) of uzzw, Article 16(63) of the Water Law, and Article 3(38b) of POŚ);
- 3) **Industrial waste water** - means waste water other than domestic waste water or rain or thaw water from rainfall or snowfall which originates in relation to commercial, industrial, storage, transport and service activities of a given business entity, as well as its mixture with waste water from other entities, conveyed via sewage facilities of a given entity (Article 2(11) of uzzw, Article 16(64) of the Water Law, and Article 3(38c) of POŚ)¹⁸

Given the above, as a rule, industrial waste water is waste water which originates in relation to commercial, industrial, storage, transport and service activities of a given business entity. The status of industrial waste water may change after it is mixed with domestic waste water. If industrial waste water from an industrial plant is discharged to the sewage network (e.g. to a collecting sewer used for discharging domestic waste water, it will become municipal waste after it is mixed with domestic waste water.¹⁹

Moreover, industrial waste water containing substances that are particularly harmful to the aquatic environment can be treated as a separate category of industrial waste water. The catalogue of such substances is laid down in the Regulation of the Minister of Maritime Economy and Inland Navigation of 12 July 2019 on the substances that are particularly harmful to the aquatic environment and the conditions to be met upon discharging them into water or ground, and upon discharging rain water and thaw water into water or water facilities (Journal of Laws of 2019, item 1311). It should be stressed that if industrial waste water is generated in a given industrial plant, and if the waste water contains substances that are particularly harmful to the aquatic environment, additional obligations may be imposed on such industrial plant. For instance, the entity which generates such type of waste water and discharges it to the municipal sewage system is obliged to obtain a water law permit for releasing industrial waste water containing substances which are particularly harmful to the aquatic environment to sewage facilities owned by other entities.

¹⁸ It is also worth mentioning that although under the uzzw and POŚ acts, "rain water or thaw water from rainfall or snowfall" is listed in the definitions of municipal and industrial waste water, the legislator did not include the expression "from rainfall or snowfall" in the definitions laid down in the Water Law. The difference probably results from the fact that the definition of rain water and thaw water was laid down in the Water Law and the notions are understood as water from rainfall or snowfall (Article 16(69) of the Water Law). Therefore, such terminological difference seems to be insignificant as regards the understanding of the notions in individual Acts.

¹⁹ See judgement of the Supreme Court (SN) of 22 November 2017, Case No. OSK 345/17 (final and binding judgement).

In conclusion, the attempt to classify a given waste water stream to a specified waste water group, in particular domestic and industrial waste water, might pose significant problems. This is due to the fact that even two plants running similar operations might have two completely different waste water management systems. In addition, even domestic waste water, due to the detergents used in laundries and kitchens and other chemical substances used in households can resemble industrial waste water as regards its composition and volume. In practice, it is not easy to conclusively determine the type of the given waste water in the light of statutory definitions.

2.1.2. Liquid waste

In certain circumstances industrial waste water from plants may be classified as “liquid waste.” Pursuant to Article 2(1)(1) of ucpg liquid waste is understood as “waste water temporarily collected in septic tanks.” In turn, septic tanks are defined as “systems and facilities intended for collecting liquid waste on the site of its generation”, and are commonly known as “cesspools.”

Referring to the above notions, it should be noted that the uspg act does not set out a separate definition of waste water. Nonetheless, according to the legal doctrine and literature on the subject, the definition of waste water laid down in the water Law and POŚ²⁰ is usually applied to explain this notion. However, some authors, referring to the provisions of the ucpg act, treat the notion of “waste water” as a separate concept which is independent of the statutory definitions which can be found in other legal acts²¹. Nonetheless, some authors point out the liquid waste becomes waste water within the meaning of the Water Law and POŚ after it is discharged into water or ground²².

It is worth noting that the case law of administrative courts includes a quite restrictive understanding of liquid waste. For instance, the Provincial Administrative Court in Gdańsk, under a judgement of 18 July 2018 (Case File II SA/Gd 280/18) dismissed the appeal against the decision of the Local Government Appeals Board which had upheld the decision of the Commune Head on the refusal to issue a permit for activities in the field of emptying septic tanks and transporting liquid waste. The core of the dispute was the assessment of the legal status of the water collected in the process of liquefaction during the cooking of fish products by a company operating in the fishery industry. In the view of the company, the liquid collected in septic tanks and transported to septage receiving stations is water collected as a result of liquefaction during the cooking of fish products. Therefore,

²⁰ B. Brynczak, *Komentarz do art. 2 ucpg* [Commentary to Article 15 of ucpg] [in:] *Utrzymanie czystości i porządku w gminach. Komentarz* [The maintenance of cleanliness and order in communes. A commentary], W. Radecki, Warsaw 2016, marginal number 2 *in fine*, On-line access to the Legal Information System LEX. Similar views can be found in: M. Dowgielewicz, *Prawne uwarunkowania prowadzenia gospodarki ściekowej w gminach* [Legal conditions of waste water management in communes] [in:] *Gospodarka ściekowa w gminie. Nadzór, kontrola, sankcje*, [Waste water management in communes. Supervision, control, sanctions] A. Jówko, J. Maćkowiak (ed.), Warsaw 2018, pp. 4-5.

²¹ See: K. Bandarzewski, B. Dziadkiewicz, *Komentarz do art. 2 ucpg* {Commentary of Article 2 of uspg} [in:] *Ustawa o utrzymaniu czystości i porządku w gminach. Komentarz*. [The Act on Maintaining cleanliness and order in communes. A commentary], Chmielnicki (ed.), Lexis Nexis 2007, on-line access in the LEX Legal Information System.

²² W. Radecki, *Komentarz do art. 2 ucpg*... op. cit., marginal number 2 *in fine*. Similar views can be found in: M. Dowgielewicz, *Prawne uwarunkowania*... op. cit., pp. 4-5.

according to the company, it is not a toxic substance which can have a negative environmental impact.

Competent public administration bodies had a different view on the matter. According to the Appeals Board, 'water collected as a result of a completely natural liquefaction process during the cooking of fish products' is waste water within the meaning of Article 2(1)(1) of ucpg. As pointed out by the Appeals Board, "since it is water from the liquefaction process during the cooking of fish products, it is consumed water, within the meaning of Article 3(38) of the Environmental Protection Law, hence it is waste water." In the above position, though it was not expressly repeated by the Provincial Administrative Court in Gdańsk, the Court found that in the said matter the authorities correctly applied the relevant legal regulations governing liquid waste disposal permits to the factual circumstances.

Another issue which can arouse some doubts is the fact whether liquid waste, within the meaning laid down in Article 2(1)(1) of uspg, is only domestic or municipal waste water, or also industrial waste water. There is a view in the legal doctrine that only domestic and municipal waste water can be classified as liquid waste²³. However, this view provokes some doubts. Pursuant to Article 9o(1) of ucpg, entities conducting activities in the field of emptying septic tanks and transporting liquid waste are obliged to prepare quarterly reports and submit them to the Commune Head or Mayor by the end of the month following the quarter referred to in such reports. What is important, under Article 9o(3)(3) of ucpg the reports should contain information on the quantities of liquid waste collected from the commune area, including

- a) domestic waste water,
- b) and industrial waste water.

Moreover, the aforementioned reports should also contain information on the quantities of liquid waste collected from the commune area, and which was discharged in septage receiving stations, providing data on domestic waste water and industrial waste water²⁴. Although Article 9o(3) in the wording referred to above entered into force on 13 August 2019²⁵, the obligation to separately record domestic waste water and industrial waste water existed prior to that date. In that period, the obligation to separately record data on industrial waste water and domestic waste water had been laid down in Annex No.4 to the Regulation of the Minister of the Environment of 26 July 2018 on template reports on collected and generated municipal waste water, collected liquid waste and the

²³ W. Radecki, *Komentarz do art. 2 ucpg... op. cit. 2 in fine*. This view has also been asserted by M. Dowgilewicz. M. Dowgilewicz, *Prawne uwarunkowania... op. cit.*, pp. 4-5.

²⁴ Article 9o(3) in the aforementioned wording has been in force since 13 August 2019, and the wording was defined pursuant to Article 2(4) of the Act of 4 July 2019 on amending the waste act and certain other acts (Journal of Laws of 2019, item 1403). However, the obligation to separately record domestic waste water and industrial waste water existed prior to that date. In that period, the obligation to separately record data on industrial waste water and domestic waste water had been laid down in Annex No. 4 to the Regulation of the Minister of the Environment of 26 July 2018 on template reports on collected and generated municipal waste water, collected liquid waste and the performance of tasks related to municipal waste management (Journal of Laws of 2018, item 1627).

²⁵ The wording of the provision cited above was defined pursuant to Article 2(4) of the Act of 4 July 2019 on amending the waste act and certain other acts (Journal of Laws of 2019, item 1403).

performance of tasks related to municipal waste management (Journal of Laws of 2018, item 1627). It is worth noting that in the instruction to the template report, the legislator expressly pointed out that the “Type of liquid waste” is understood as: domestic waste water, municipal waste water and industrial waste water, pursuant to Article 16(62-64) of the Act of 20 July 2017 - the Water Law. Given the above, it seems that the views expressed in the doctrine, according to which liquid waste within the meaning adopted under Article 2(1)(1) of ucpg is solely domestic or municipal waste water, are wrong. Nonetheless, there is currently no uniform case law concerning this matter. Therefore, the final resolution of the matter might need the intervention of the legislator.

2.1.3. Waste

In certain situations waste water from industrial plants may also be classified as waste. This results from the fact that the composition of waste water determines the possibility for the waste water treatment plant to accept such waste water. If the tests of waste water show a significant violation of standards, and its treatment is not possible or economically viable, the only solution is to classify the waste water as liquid waste.

It should be stressed that, as a rule, waste cannot be conveyed to waste water treatment plants, as waste water treatment plants are not systems intended for waste disposal. Unwanted substances which are classified as liquid waste should be stored in septic tanks, and handed over to entities holding waste collection permits. It should be noted that industrial plants generating large quantities of such type of liquid waste may be subject to the obligation to obtain a waste generation permit²⁶. As laid down in Article 180a of POŚ a “a waste generation permit is required to generate waste:

- 1) with a weight over 1 Mg per year - for hazardous waste, or
- 2) with a weight over 5000 Mg per year - for waste other than hazardous waste.”

If waste water from a given industrial plant is classified as waste, this will involve the requirement to classify the waste to an appropriate group, sub-group and type of waste, according to the waste codes defined in the Regulation of the Minister of the Environment of 9 December 2014 on the waste catalogue (Journal of Laws of 2014, item 1923). For instance, if no pre-treatment is performed on site of the plant, waste water is often classified as “liquid waste”. The most frequent liquid waste codes applied in practice include:

- 16 10 01* - aqueous liquid wastes containing dangerous substances,
- 16 10 02 – aqueous liquid wastes other than those mentioned in 16 10 01.

2.1.4. Methods of managing industrial waste water depending on their legal classification

²⁶ D. Rosłoń, K. Czajkowska-Matosiuk, J. Pacek, B. Matysiak, D. Kwaśniewska-Barczak, I. Kotowska, K. Szewczyk-Cieślak, T. Kaler, *Gospodarka wodno-ściekowa w przedsiębiorstwie* [Water supply and waste water management in enterprises], Warsaw 2017, pp. 114-115.

As shown above, substances created in industrial processes may be subject to various legal classifications. Depending on how a given entity classifies the waste water it generates, they may be directed wither to a municipal waste water treatment plant or to other systems. This mostly includes all on-site treatment plants and plants where waste is disposed or subject to energy recovery processes (e.g. in biogas plants), which have relevant administrative decisions permitting waste treatment.

A simple chart of potential methods of managing waste water from industrial plants, depending on their legal classification, is presented in Figure No. 1.

It should be noted that notwithstanding whether we are dealing with waste water or liquid waste, in the end it will finally be discharged to the environment²⁷. In the event of standard waste water treatment systems, the receiving body of water is usually the river. Hence the legislator provided special legal requirements related to the discharge of substances which are expected to have the highest pollutant concentration. Environmental protection measures in this respect are reflected in, for example, the water law permit system which defines the minimum legal standards in the field of waste water treatment and its discharge to the environment.

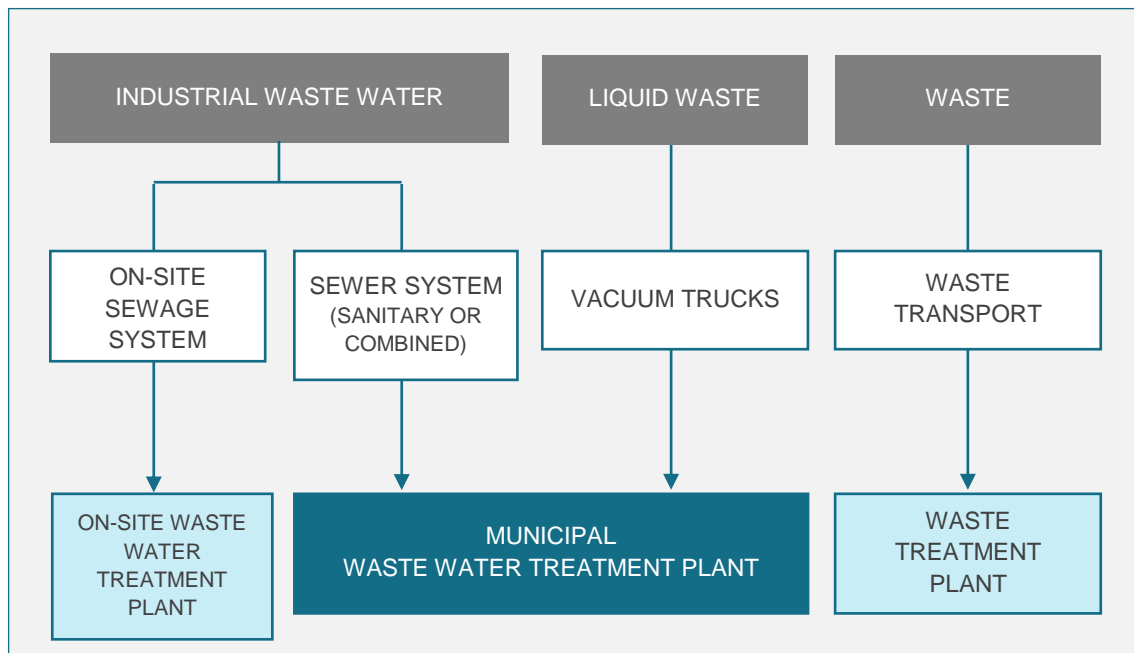


Figure 1. Potential methods of managing waste water from industrial plants, depending on its legal classification. Author: M. Maśliński.

²⁷ It is worth mentioning that in theoretical terms situations where waste water is directed to a treatment plant connected to a closed technological system (without external exposure) to which the entity generating the waste water does not hold a legal title are also possible. As asserted by Ratko, in such situation we can speak of waste water in technological terms, and not in the legal sense of the notion. Hence the aforementioned example was not taken into account in the list. For more details see: J. Rotko, *Pozwolenie wodnoprawne na wprowadzanie ścieków...* op. cit., p. 6.

2.2. General principles of managing industrial waste water

The basic guidelines in the field of handling waste water, including industrial waste water, are set out in the Water Law and implementing regulations issued on the basis of the said act. The other legal provisions are supplementary, while the Act of 7 June 2001 on public water supply and public waste water collection plays one of the most important roles from the perspective of this analysis²⁸. It should be stressed that the above legal regulations take into consideration the guidelines for handling industrial waste water set out in the Waste Water Directive²⁹.

The currently applicable framework legal regulations concerning the protection of water are laid down in Section III of the Water Law, entitled "Water Protection". The Section also includes a number of general direction provisions (See: Chapter 1 "The purpose of water protection and environmental goals"), and specific legal norms defining the obligations and restrictions related to handling waste water³⁰. The specific provisions are of key significance to entities generating industrial waste water. Hence the definition of the extent of obligations imposed on entities generating waste water will be preceded by general provisions concerning this subject matter which are applicable to all entities notwithstanding the final method of managing industrial waste water.

2.2.1. Waste water conveyance as part of using water resources - overview of the formal conditions

The Water Law provided four types of water usage, i.e. general, normal, special water use, and water services. The model which the legislator adopted makes it possible to assume that the least invasive activities are performed as part of general water usage, and the most invasive activities are performed as part of special water usage and providing water services. What is important, water usage is accompanied both by the water law permit system, the control system and the water usage fee system³¹.

One of the basic forms of using water resources is the discharge of waste water into water and ground. It is worth noting that it may be performed as part of normal water use, which is not

²⁸ It is also worth mentioning that until 31 December 2017 framework legal regulations governing water protection were most of all set out in Title II "Protection of environmental resources", Section III "Water Protection" (Articles 97-100 POŚ). However, these provisions were repealed pursuant to Article 493(3) of the New Water Law, i.e. the Act of 20 July 2017 (Journal of Laws of 2017, item 1566).

²⁹ See: Annex No. 1 to the Waste Water Directive which sets out the requirements concerning municipal waste water, including industrial waste water.

³⁰ The views expressed in this matter by K. Szumska can still be regarded as topical. She stated that despite the fact that general regulations governing water protection, which had been previously laid down in the POŚ, seemed vague at times, it did not mean that they did not have any practical applications, as they had to be taken into consideration in the process of interpreting substantive legal provisions, whereas disregarding them might impact the correctness of the interpretation. For more details see: K. Szumska, *Zasady ochrony wód w prawie polskim [The extent of water protection in Polish law]* [in:] *Wybrane problemy prawa wodnego [Selected water law issues]*, B. Rakoczy (ed.), Warsaw 2013, pp. 88-90.

³¹ P. Szuwalski, *Komentarz do Działu II ustawy Prawo wodne z 2017 r. [Commentary to Section II of the Water Law of 2017]* [in:] *Prawo wodne. Komentarz do wybranych przepisów [The Water Law. A commentary to selected provisions]*, P. Szuwalski, access in the Legal Information System LEX/el 2019.

particularly formalised. As laid down in Article 33(4)(2) of the Water Law, normal use of water includes the discharge of waste water into water or ground in quantities up to a total of 5 m³ per day. Normal use of water is aimed at satisfying the needs of an individual household and an agricultural enterprise. Therefore, in practice it is forbidden to convey waste water as part of normal use of water for the purpose of conducting business activities.

If in such case the waste water is discharged into water or ground, we are dealing with a water service. Pursuant to Article 35(3)(5) of the Water Law, water services include the discharge of waste water into water or ground, and the discharge of waste water to water facilities. This leads to a number of legal consequences. For example, any entity which is planning to discharge industrial waste water into water or ground should obtain a water law permit prior to commencing such operations (Article 389 of the Water Law). What is more, the discharge of waste water into water or ground is subject to fees for water services, payable to "Wody Polskie" (Article 268(1)(2) of the Water Law). There is also a number of reporting obligations related to compulsory measurements. Entities using water services are obliged to submit the results of quantitative and qualitative measurements of waste water discharged into water or ground, to the extent defined in a relevant water law permit or an integrated permit:

- 1) to the regulatory body competent in matters concerning water law permits, or with competent bodies issuing integrated permits - by 1 March of each year following the reporting year, and
- 2) to the competent body of the Inspection of Environmental Protection (Article 304 of the Water Law).

In addition to the water service which entails the direct discharge of waste water into water or ground (i.e. directly to the environment), the legislator provided for one more special form of water usage related to waste water discharge. Under Article 34(3) of the Water Law, special use of water also includes the discharge to sewage facilities owned by other entities of industrial waste water containing substances that are particularly harmful to the aquatic environment. In other words, this refers to a situation where a given industrial plant uses the services of third parties to discharge waste water, instead of releasing waste water directly to the environment. This entity is usually a water and sewage management company.

This means that such industrial plant entrusts this task to another entity. It involves the parties entering into a civil law relationship and requires taking into account the legal norms related to the use of the infrastructure owned by the waste water recipient. As regards water and sewage management companies, the norms include the provision of uzzw, and the terms and conditions of water supply and waste water conveyance in force in a given area.

In conclusion, it should be stressed that the obligation to obtain a water law permit for the discharge of waste water to sewage facilities owned by other entities refers only to industrial waste water containing substances that are particularly harmful to the aquatic environment. In other cases, such

water law permit is not required, so the water and sewage management company does not need such document to begin providing services to a plant interested in a connection to a sewage network.

What is important, under the Water Law, a minister competent in water management affairs is entitled to define, by way of a regulation, a list of substances particularly harmful to the aquatic environment the discharge of which in industrial waste water to sewage devices requires a water law permit (see: Article 100(1) of the Water Law)³². The currently binding list is laid down in the Regulation of the Minister of Maritime Economy and Inland Navigation of 28 June 2019 (Journal of Laws of 2019, item 1220). The list of substances referred to in above is presented in Table No. 1.

No.	The substances particularly harmful to the aquatic environment the discharge of which to sewage facilities requires a water law permit
1.	Aldrin (C ₁₂ H ₈ Cl ₆)
2.	Antimony
3.	Arsenic
4.	Ammoniacal nitrogen
5.	Nitrite nitrogen
6.	Barium
7.	Beryllium
8.	Boron
9.	Total chromium
10.	Hexavalent chromium
11.	Free cyanides and complex cyanides
12.	Tin
13.	Zinc
14.	1,2-Dichloroethane (EDC)
15.	Dieldrin (C ₁₂ H ₈ Cl ₆ O)
16.	Dioxins
17.	Dichlorodiphenyltrichloroethane (DDT)
18.	Endrin (C ₁₂ H ₈ Cl ₆ O)
19.	Volatile phenols (phenol index)
20.	Fluorides
21.	Phosphorus and phosphorus compounds determined as total phosphorus
22.	Furans
23.	Hexachlorobenzene (HCB)

³² Pursuant to Article 100(2) of the Water Law, the minister competent in water management affairs who issues the regulation referred to in Paragraph 1 should take into consideration:

- 1) the need to prevent threats to human health and lives resulting from discharging to sewage facilities substances that are particularly harmful to the aquatic environment;
- 2) the suitability of the substances which are particularly harmful to the aquatic environment for mechanical and biological treatment processes;
- 3) the need to reduce substances that are particularly harmful to the aquatic environment on site of their generation, if it is not possible to remove them by applying mechanical and biological treatment processes.

24.	Hexachlorobutadiene (HCBD)
25.	Hexachlorocyclohexane (HCH)
26.	Isodrin (C ₁₂ H ₈ Cl ₆)
27.	Cadmium (Cd)
28.	Cobalt
29.	Copper
30.	Molybdenum
31.	Nickel
32.	Lead
33.	Pentachlorophenol (PCP) ([2, 3, 4, 5, 6-pentachloro-1-hydroxybenzene] and its salts
34.	Polychlorinated biphenyls (PCB)
35.	Polychlorinated terphenyls (PCT)
36.	Mercury (Hg)
37.	Selenium
38.	Silver
39.	Thallium
40.	Tetrachloromethane (carbon tetrachloride) (CCl ₄)
41.	Tetrachloroethylene (perchloroethylene) (PER)
42.	Trichlorobenzene (TCB)
43.	Trichloroethylene (TRI)
44.	Trichloromethane (chloroform) (CHCl ₃)
45.	Titanium
46.	Vanadium
47.	Petroleum hydrocarbons

Table No. 1. The substances particularly harmful to the aquatic environment the discharge of which in industrial waste water to sewage facilities requires a water law permit. Source: Annex No. 1 to the Regulation of the Minister of Maritime Economy and Inland Navigation of 28 June 2019 on the substances particularly harmful to the aquatic environment the discharge of which in industrial waste water to sewage devices requires a water law permit (Journal of Laws of 2019, item 1220)

In conclusion, it should be stressed that **if an entity generating industrial waste water discharges to sewage facilities at least one of the aforementioned substances, as a rule, it is obliged to obtain a relevant water law permit for the discharge of such substances into water or ground.**

The water law permit for the discharge of industrial waste water into water or ground is not required where such waste water does not contain substances that are particularly harmful to the aquatic environment. In such event, the principles of discharging waste water will be as defined in the uzzw, and internal regulations of a given water and sewage management company.

Notwithstanding the above, each entity which discharges industrial waste water directly to the environment, into water or ground, is obliged to obtain a water law permit for such use of water. A water law permit for the discharge of waste water into water and ground is not required if a given entity has an integrated permit. This does not mean, however, that the holder of an integrated permit is in a privileged position. To the contrary, under Article 202 of POŚ, the integrated permit defines the condition for emissions in line with principles defined for the water law permit for the discharge of waste water into water or ground. Moreover, Pursuant to Article 208(1) of POŚ, the application

for issuing an integrated permit meets the conditions pertaining to applications for issuing water law permits for the discharge of waste water into water or ground.

It should be noted that before waste water is discharged into water or ground, it should be treated to the extent laid down in the Water Law, whereas the detailed requirements in this field have been described in the following part of this study.

2.2.2. Bans concerning the discharge of waste water into water or ground

The fact of holding a water law permit or an integrated permit does not mean that the holder has unlimited rights related to releasing waste water into water or ground. The Water Law defines quite rigorous principles of handling waste. Pursuant to Article 75 of the Water Law, it is prohibited to discharge waste water:

- 1) directly to ground water;
- 2) to:
 - a) surface water, if it constitutes a breach of the conditions which arise from the existing forms of environmental protection, game reserves or wildlife refuge areas created pursuant to the Act of 16 April 2004 on environmental protection, and water protection zones established under Article 135(1) and conservation zones of inland water reservoirs established under Article 141(1),
 - b) surface water in bathing water areas, or places occasionally used as bathing water areas, and public beaches near water, within the distance of no less than 1 kilometre of their boundaries,
 - c) still water,
 - d) lakes, if the waste water inflow time is shorter than 24 hours,
 - e) natural water courses and channels being lake tributaries, if the waste water inflow time is shorter than 24 hours,
- 3) ground:
 - a) waste water containing substances that are particularly harmful to the aquatic environment, as defined in the provisions of Article 99(1)(1), if it violates the conditions defined in the provisions of Article 99(1)(2),
 - b) if it constitutes a breach of the conditions which arise from the existing forms of environmental protection, game reserves or wildlife refuge areas created pursuant to the Act of 16 April 2004 on environmental protection, and water protection zones established under Article 135(1) and conservation zones of inland water reservoirs established under Article 141(1),
 - c) if the waste water treatment level or the thickness of rock formations over groundwater table does not protect the water against pollution,
 - d) in service strips along roads,
 - e) within a distance of up to 1 kilometre of the boundaries of bathing water areas, places occasionally used as bathing water areas, and public beaches near waters.

Additional bans in this field have been defined in Article 77 of the Water Law. Pursuant to the said provision, it is prohibited to, i.a., discharge waste, within the meaning of Article 3(1)(6) of the Waste Act of 14 December 2012, and liquid animal faeces into water. Moreover, in areas of significant flood hazard it is prohibited to collect waste, animal faeces, chemicals and other substances or materials which might pollute water, and to run activities in the field of waste recovery and/or disposal, in particular landfilling (Article 77(1)(3) of the Water Law). It is worth noting that if it does not cause risk to the quality of water in the event of flood, a competent authority of „Wody Polskie” may issue a decision to exempt a given entity from the above bans, defining the conditions required for water quality protection.

The aforementioned bans do not cover the use of construction rubble, earth or rock flour as part of performing works related to the maintenance or regulation of water, protection of the sea coast and inland maritime water, and deepening of maritime waterways³³.

2.2.3. The obligation to treat waste water discharged into water or ground

Pursuant to Article 78 of the Water Law, the waste water discharged into water or ground as part of normal use of water or water services should be treated to the extent required by law. Moreover, waste water discharged into water or ground cannot contain:

- 1) waste, within the meaning laid down in Article 3(1)(6) of the Act of 14 December 2012 on waste, and floating solids,
- 2) pathogenic microbes from premises where patients are treated for communicable diseases,
- 3) priority substances defined in the provisions adopted pursuant to Article 114 of the Water Law.

The current list of priority substances is laid down in the Regulation of the Minister of Maritime Economy and Inland Navigation of 1 March 2019 (Journal of Laws of 2019, item 528). What is important, the list of priority substances should not be confused with the list of substances particularly harmful to the aquatic environment the discharge of which in industrial waste water to sewage devices requires a water law permit. The list of priority substances is crucial from the perspective of entities which discharge waste water to the environment (e.g. water and sewage management companies, entities having their own waste water treatment plants). Pursuant to Article 78 of the Water Law, the waste water discharged into water or ground cannot contain any priority substances. The list of “substances that are particularly harmful” refers mostly to entities discharging industrial waste water to sewage devices owned by water and sewage management companies. Such substances may be discharged to sewage facilities owned by other entities, but they are subject to special control. Therefore, these entities are required to obtain a relevant water law permit prior to the discharge of waste water to sewage network.

³³ This list of bans related to water management is not exhaustive. The bans which have been indicated in this chapter refer mostly to industrial activities and related waste water management. However, those interested in a detailed list of bans should refer to the legal provisions set out in the Water Law.

The detailed list of priority substances is presented in Table No. 2, while the “substances that are particularly harmful” have been listed in Table No. 1 (point 2.2.1).

No.	CAS No. ³⁴	EU No. ³⁵	Name of a priority substance ³⁶	Identified as priority hazardous substance
1	2	3	4	5
1	15972-60-8	240-110-8	Alachlor	
2	120-12-7	204-371-1	Anthracene	X
3	1912-24-9	217-617-8	Atrazine	
4	71-43-2	200-753-7	Benzene	
5	Not applicable	Not applicable	Polybrominated diphenyl ethers	X ³⁷
6	7440-43-9	231-152-8	Cadmium and its compounds	X
7	85535-84-8	287-476-5	Chloroalkanes, C10-13	X
8	470-90-6	207-432-0	Chlorfenvinphos	
9	2921-88-2	220-864-4	CHLORPYRIFOS (chlorpyrifos-ethyl)	
10	107-06-2	203-458-1	1,2-Dichloroethane	
11	75-09-2	200-838-9	Dichloromethane	
12	117-81-7	204-211-0	di(2-ethylhexyl) phthalate (DEHP)	X
13	330-54-1	206-354-4	Diuron	
14	115-29-7	204-079-4	Endosulfan	X
15	206-44-0	205-912-4	Fluoranthene	
16	118-74-1	204-273-9	Hexachlorobenzene	X
17	87-68-3	201-765-5	Hexachlorobutadiene	X
18	608-73-1	210-168-9	Hexachlorocyclohexane	X
19	34123-59-6	251-835-4	Isoproturon	
20	7439-92-1	231-100-4	Lead and its compounds	
21	7439-97-6	231-106-7	Mercury and its compounds	X
22	91-20-3	202-049-5	Naphthalene	
23	7440-02-0	231-111-4	Nickel and its compounds	
24	Not applicable	Not applicable	Nonylphenols	X ³⁸

³⁴ The CAS number is the substance number assigned by the Chemical Abstract Service.

³⁵ The EU number is the substance number compliant with the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS) published on the website of the European Chemicals Agency (<https://echa.europa.eu/>).

³⁶ Where groups of substances have been selected, unless explicitly noted, typical individual representatives are defined in the context of the setting of environmental quality standards.

³⁷ Only Tetra, Penta, Hexa and Heptabromodiphenylether (CAS numbers 40088-47-9, 32534-81-9, 36483-60-0, 68928-80-3, respectively).

³⁸ Nonylphenol (CAS 25154-52-3, EU 246-672-0) including isomers 4-nonylphenol (CAS 104-40-5, EU 203-199-4) and 4-nonylphenol (branched) (CAS 84852-15-3, EU 284-325-5).

25	Not applicable	Not applicable	Octylphenols ³⁹	
26	608-93-5	210-172-0	Pentachlorobenzene	X
27	87-86-5	201-778-6	Pentachlorophenol	
28	Not applicable	Not applicable	Polycyclic aromatic hydrocarbons (PAH) ⁴⁰	X
29	122-34-9	204-535-2	Simazine	
30	Not applicable	Not applicable	Tributyltin compounds	X
31	12002-48-1	234-413-4	Trichlorobenzene	
32	67-66-3	200-663-8	Trichloromethane (chloroform)	
33	1582-09-8	216-428-8	Trifluralin	X
34	115-32-2	204-082-0	Dicofol	X
35	1763-23-1	217-179-8	Perfluorooctane sulfonic acid and its derivatives (PFOS)	X
36	124495-18-7	Not applicable	Quinoxifen	X
37	Not applicable	Not applicable	Dioxins and dioxin-like compounds	X ⁴¹
38	74070-46-5	277-704-1	Aclonifen	
39	42576-02-3	255-894-7	Bifenox	
40	28159-98-0	248-872-3	Cybutryne	
41	52315-07-8	257-842-9	Cypermethrin ⁴²	
42	62-73-7	200-547-7	Dichlorvos	
43	Not applicable	Not applicable	Hexabromocyclododecanes (HBCDD)	X ⁴³
44	76-44-8/1024-57-3	200-962-3/ 213-831-0	Heptachlor and heptachlor epoxide	X
45	886-50-0	212-950-5	Terbutryn	

³⁹ Octylphenol (CAS 1806-26-4, EU 217-302-5) including isomer 4-(1,1',3,3'-tetramethylbutyl)-phenol (CAS 140-66-9, EU 205-426-2).

⁴⁰ Including benzo(a)pyrene (CAS 50-32-8, EU 200-028-5), benzo(b)fluoranthene (CAS 205-99-2, EU 205-911-9), benzo(g,h,i)perylene (CAS 191-24-2, EU 205-883-8), benzo(k)fluoranthene (CAS 207-08-9, EU 205-916-6), indeno(1,2,3-cd)pyrene (CAS 193-39-5, EU 205-893-2) and excluding anthracene, fluoranthene and naphthalene, which are listed separately.

⁴¹ This includes the following compounds: a) 7 polychlorinated dibenzo-p-dioxins (PCDDs): 2,3,7,8-T4CDD (CAS 1746-01-6), 1,2,3,7,8-P5CDD (CAS 40321-76-4), 1,2,3,4,7,8-H6CDD (CAS 39227-28-6), 1,2,3,6,7,8-H6CDD (CAS 57653-85-7), 1,2,3,7,8,9-H6CDD (CAS 19408-74-3), 1,2,3,4,6,7,8-H7CDD (CAS 35822-46-9), 1,2,3,4,6,7,8,9-O8CDD (CAS 3268-87-9), b) 10 polychlorinated dibenzofurans (PCDFs): 2,3,7,8-T4CDF (CAS 51207-31-9), 1,2,3,7,8-P5CDF (CAS 57117-41-6), 2,3,4,7,8-P5CDF (CAS 57117-31-4), 1,2,3,4,7,8-H6CDF (CAS 70648-26-9), 1,2,3,6,7,8-H6CDF (CAS 57117-44-9), 1,2,3,7,8,9-H6CDF (CAS 72918-21-9), 2,3,4,6,7,8-H6CDF (CAS 60851-34-5), 1,2,3,4,6,7,8-H7CDF (CAS 67562-39-4), 1,2,3,4,7,8,9-H7CDF (CAS 55673-89-7), 1,2,3,4,6,7,8,9-O8CDF (CAS 39001-02-0), c) 12 dioxin-like polychlorinated biphenyls (PCB-DL): 3,3',4,4'-T4CB (PCB 77, CAS 32598-13-3), 3,3',4',5'-T4CB (PCB 81, CAS 70362-50-4), 2,3,3',4,4'-P5CB (PCB 105, CAS 32598-14-4), 2,3,4,4',5'-P5CB (PCB 114, CAS 74472-37-0), 2,3',4,4',5'-P5CB (PCB 118, CAS 31508-00-6), 2,3',4,4',5'-P5CB (PCB 123, CAS 65510-44-3), 3,3',4,4',5'-P5CB (PCB 126, CAS 57465-28-8), 2,3,3',4,4',5'-H6CB (PCB 156, CAS 38380-08-4), 2,3,3',4,4',5'-H6CB (PCB 157, CAS 69782-90-7), 2,3',4,4',5,5'-H6CB (PCB 167, CAS 52663-72-6), 3,3',4,4',5,5'-H6CB (PCB 169, CAS 32774-16-6), 2,3,3',4,4',5,5'-H7CB (PCB 189, CAS 39635-31-9).

⁴² CAS No. 52315-07-8 refers to an isomer mixture of cypermethrin, alpha-cypermethrin (CAS: 67375-30-8), beta-cypermethrin (CAS 65731-84-2), theta-cypermethrin (CAS 71697-59-1), and zeta-cypermethrin (CAS: 52315-07-8).

⁴³ This includes 1,3,5,7,9,11-Hexabromocyclododecane (CAS 25637-99-4), 1,2,5,6,9,10-Hexabromocyclododecane (CAS 3194-55-6), α-Hexabromocyclododecane (CAS 134237-50-6), β-Hexabromocyclododecane (CAS 134237-51-7) and γ-Hexabromocyclododecane (CAS 134237-52-8).

Table No. 2. *List of priority substances. Source: Annex No. 1 to the Regulation of the Minister of Maritime Economy and Inland Navigation of 1 March 2019 on the list of priority substances (Journal of Laws of 2019, item 528)*

It is worth mentioning that there are other legally binding lists of substances. This includes in particular the list of substances that are particularly harmful to the aquatic environment and that cause water pollution which should be eliminated (the so called List I), and the list of substances that are particularly harmful to the aquatic environment and that cause water pollution which should be reduced (the so called List II). Both these lists are laid down in the Regulation of the Minister of Maritime Economy and Inland Navigation of 12 July 2019 on the substances that are particularly harmful to the aquatic environment and the conditions to be met upon releasing them into water or ground, and upon discharging rain water and thaw water onto water or water facilities (Journal of Laws of 2019, item 1311). The foregoing regulations are supplemented by the Regulation of the Minister of Maritime Economy and Inland Navigation of 8 July 2019 on the permissible quantities of pollutants which may be discharged with industrial waste water (Journal of Laws of 2019, item 1300). The aforementioned lists will be referred to in subsequent parts of this study.

In addition, pursuant to Article 78(2) of the Water Law, waste water discharged into water or ground as part of normal use of water or as part of water services should be treated to the extent required by law, and cannot result in any changes to the natural biocoenosis characteristic of the water, changes to the natural turbidity, colour or fragrance of the water body, or in sludge or foam formation. The above factors can be eliminated by applying appropriate waste water treatment technologies, depending on the type of waste water subject to treatment (for more information, see Point 2.2.4 of this Report).

The legislator also prohibits the dilution of waste water to obtain the condition, composition and minimum values showing the percentage by which the pollutants have been reduced, as laid down in regulations adopted pursuant to Article 99(1)(2) of the Water Law⁴⁴.

2.2.4. Minimum standards in the field of waste water treatment

The conditions to be met upon releasing waste water into water or ground, in particular domestic waste water, municipal waste water and industrial waste water, including the highest possible pollutant content values, are defined in the Regulation of the Minister of Maritime Economy and Inland Navigation of 12 July 2019 (Journal of Laws of 2019, item 1311)⁴⁵. Furthermore, the regulation also defines the location and the minimum frequency of collecting waste water samples,

⁴⁴ This refers to the standards arising from the Regulation of the Minister of Maritime Economy and Inland Navigation of 12 July 2019 on the substances that are particularly harmful to the aquatic environment and the conditions to be met upon releasing them into water or ground, and upon discharging rain water and thaw water into water or water facilities (Journal of Laws of 2019, item 1311).

⁴⁵ The regulation replaced the Regulation of the Minister of the Environment of 18 November 2014 on the conditions to be met upon releasing waste water into water or ground, and on the substances that are particularly harmful to the aquatic environment (Journal of Laws of 2014, item 1800), which, pursuant to Article 566(1) of the Water Law, is temporarily in force, yet no longer than for 18 months of the date in which the aforementioned act entered into force.

the reference methodologies of analysis and methods of assessment whether the waste water meets the required conditions.

In addition to the issues which have been described above, the regulation also defines:

- 1) the substances that are particularly harmful to the aquatic environment and that cause water pollution which should be eliminated (the so called List I) and the list of substances that are particularly harmful to the aquatic environment and that cause water pollution which should be reduced (the so called List II);
- 2) the maximum permissible pollutant content values for waste from domestic and municipal waste water treatment plants, and for waste water from treatment plants in agglomerations;
- 3) the conditions to be met upon discharging rain or thaw water into water or water facilities, including the maximum permissible pollutant content values, and the location, method and the minimum frequency of collecting water samples, the reference methodology of the analysis and the methods of assessment whether rain or thaw water discharged to water or water facilities meet the required conditions.

Therefore, each industrial plant dealing with waste water management as part of on-site waste water treatment plant should act in line with the conditions laid down in the said Regulation.

Nonetheless, the standards of discharging industrial waste water to sewage facilities owned by other entities, in particular water and sewage management companies, are separate issues. In such a situation, industrial plants should also take into consideration the provisions of uzzw applicable to industrial waste water suppliers, and the implementing provisions covering this area, which will be subject to detailed analysis in the subsequent part of this Report.

3. The formal and legal conditions of releasing industrial waste water to the sewage system owned by MPWiK

Industrial plants which manage industrial waste water independently have a number of obligations. As a result, a large proportion of entities generating industrial waste water decide to use the municipal sewage system. Given the above, the next part of the report presents the formal and legal requirements imposed on industrial plants which are planning to discharge their industrial waste water to sewage facilities operated by the Warsaw Municipal Water and Sewage Management Company (Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji w m.st. Warszawie S.A.). These include both the formal and legal obligations related to the commencement of providing services to a new industrial waste water supplier, and to the obligations applicable in the course of discharging such waste water.

In line with the division of methods of managing industrial waste water indicated at the beginning of this document, the detailed analysis will on the one hand refer to the discharge of industrial waste water directly to sewage facilities owned by MPWiK in Warsaw (Model 1), and on the other hand to

the situation where the industrial waste water is delivered as liquid waste to septage receiving stations of waste water treatment plants by vacuum trucks (Model 2).

Further deliberations have been limited to the operation area of MPWiK in Warsaw, which is the area extending beyond the boundaries of Warsaw. This means that this legal analysis takes into consideration not only general laws applicable across the country (e.g. Acts and regulations) but also local legal acts, for example Resolution No. XV/375/2019 of the Warsaw City Council of 4 July 2019 on adopting the terms and conditions of water supply and waste water discharge in Warsaw and in the aforementioned communes (“rdwoś”)⁴⁶.

3.1. The conditions of discharging industrial waste water directly to the sewage network owned by MPWiK in Warsaw

3.1.1. The obligations of real property owners regarding connection to the sewage network

The obligation to connect to the sewage network arises directly from legal provisions, but it depends on whether a given real property is located within the sewer service area, or whether the sewer service area is due to be provided in the near future. In other words, not every real property to be constructed is located within the sewer service area, and thus not every real property may be connected directly to the sewage system owned by MPWiK. The above circumstances are stipulated in the uspg act, and in the Regulation of the Minister of Infrastructure of 12 April 2002 on the technical conditions to be met by buildings and their locations.

Pursuant to Article 5(1)(2) of uspg, real property owners are obliged to maintain cleanliness and order by “connecting the real property to the existing sewage network, or where it is not technically or economically feasible, equipping the real property in a septic tank for liquid waste or a private on-site waste water treatment system which are in compliance with the requirements defined in separate legal regulations”. In addition, under this provision, property owners may be exempt from the obligation to connect the building to the sewage network. The connection of a given real property is not mandatory if it is equipped in a private on-site waste water treatment system compliant with the requirements set out in separate legal regulations.

However, this exemption does not apply to industrial waste water suppliers. As the Provincial Administrative Court in Łódź (WSA) rightly pointed out in the judgement of 5 April 2018 (Case file: II SA/Łd 951/17), the legislator used the term “on-site domestic waste water treatment system” in Article 5(1)(2) of ucpg. Pursuant to Article 16(62) of the Water Law, domestic waste means waste water from residential buildings, tourist accommodation establishments, and public utility buildings, which originates predominantly from the human metabolism and from household activities, as well

⁴⁶ Given the Agreement between communes of 2005, the rdwoś resolution also covers communes which are parties to the agreement, i.e Michałowice, Nieporęt, Raszyn, Serock, Wieliszew, and the towns of Piastów and Pruszków.

as waste water of similar composition discharged from such buildings. Pursuant to Article 16(64) of this Act, industrial waste water means any waste water, other than domestic waste water or rain or thaw water from rainfall or snowfall, which originates in relation to commercial, industrial, storage, transport and service activities of a given business entity, as well as its mixture with waste water from other entities, which is conveyed via sewage facilities of a given entity.

Given the aforementioned legal regulations, in the view of the WSA in Łódź “a technical solution in the form of an on-site private domestic waste water treatment system, as provided for in Article 5(1)(2) on maintaining cleanliness and order in communes, cannot be applied for industrial waste water. Industrial waste water is not domestic waste water, and is generated as a result of service, commercial and storage activities⁴⁷.” Therefore, the possibility to apply an on-site private waste water treatment system as part of projects involving the generation of industrial waste water might arise certain doubts. “On-site private waste water treatment system” is usually defined as a set of technical facilities used for disposing waste water generated in one or several households. In its very essence, the system is intended for households, not industrial plants⁴⁸.

As already stated above, the obligation to provide service infrastructure in the land plot area is also laid down in the Regulation of the Minister of Infrastructure of 12 April 2002 on the technical conditions applicable to buildings and their location (Journal of Laws of 2019, item 1065). Pursuant to § 26(1) of the said regulation, owners of a building plot intended for residential or tourist accommodation development should have the possibility to connect the plot of land or the building to the water supply, sewage, electrical power and heating network, and for buildings listed in § 56 also to a telecommunications network. If there are no conditions for connecting to a water supply and sewage network, the plot of land referred to above may be used for residential or tourist accommodation development, provided that the owner ensures the possibility to use a domestic water well, and to apply a septic tank or an on-site private waste water treatment system, where the quantity of the waste water does not exceed 5 m³ a day. If the quantity of waste water exceeds 5 m³, the generation and treatment of the waste water require an approval issued by a locally competent environmental protection inspector.

The aforementioned provision is repeated in § 4 of the Roz.wtb regulation, pursuant to which “liquid waste tanks may only be situated in building plots where the connection to the sewage network is not possible, whereas the location of such tanks is not permissible in special areas of conservation, areas at risk of flooding, and floodplains⁴⁹.”

⁴⁷ Similar view can be found in the judgement of the Supreme Administrative Court (NSA) of 31 January 2017, Case file No. II OSK 2419/15; unpublished.

⁴⁸ Of course we cannot rule out disputable situations. For instance, waste water from the industrial plant area can be characterised solely as domestic waste water.

⁴⁹ Please note that the above provision is not applicable to liquid waste tanks for which a decision was issued pursuant to Article 40(3) of the Act of 18 July 2001 – the Water Law (Journal of Laws of 2017, item 1121) or pursuant to Article 77(3) of the Water Law. This refers to decisions exempting from the bans on generating waste water, animal faeces, chemical substances, and other substances or

In conclusion, any entity which is interested in the delivery of a building project should determine whether a given real property is located within the area covered by municipal sewage network. If this is not the case, an alternative to such connection to the sewage system would be the provision of a septic tank on the plot of land⁵⁰. The conveyance of industrial waste water to an on-site treatment plant and its direct discharge of the waste water into water or ground without the involvement of the municipal sewage system is a separate issue. Due to the limited framework of this study, this issue will not be subject to detailed analysis.

3.1.2. The procedure for connecting a real property to a sewage network

Pursuant to Article 15(4) of uzzw, the legislator imposed on waste supply and sewage companies the obligation to connect real properties to their sewage networks, provided that, firstly, the conditions of connection set out in the terms and conditions of water supply and waste water conveyance have been met, and secondly, the provision of services is technically feasible.

It should be stressed that it is a factual act performed between the water and sewage management company and a person applying for the connection to the network. The company is obliged to check whether all the conditions of connection have been met jointly⁵¹.

The first prerequisite for the connection to the network compliance with the conditions laid down in the terms and conditions. According to the case law, the approval of the engineering documentation by the company is one of the ways to check whether the conditions have been met⁵². It is prohibited, however, to interpret the provisions of the terms and conditions freely, in isolation from the Act on public water supply and public waste water collection, and in a manner which is disadvantageous to the customers⁵³. What is more, it is not permissible to condition the connection to the network on the obligation to meet requirements other than those defined in Article 15(4) of uzzw. In particular, the water and sewage management company may not condition the connection to the network upon the prior execution of a water supply or waste water conveyance agreement. It is also not permissible to condition the terms of connection upon entering into an agreement for the transfer of the network which was built by a self-builder⁵⁴. Moreover, the legislator does not provide the

materials which might pollute water, on running waste recovery or disposal activities, in particular landfilling, and on locating new cemeteries in areas of significant flood hazard.

⁵⁰ Moreover, judges express the view that “regarding the so called industrial waste water, real property owners have a peremptory obligation to connect the real property to sewage network after such network is built. See judgement of the Provincial Administrative Court (WSA) of 8 May 2013, Case No. II SA/Gd 70/13.

⁵¹ B. Brynczak, *Komentarz do art. 15 uzzw* [Commentary to Article 15 of uzzw] [in:] *Ustawa o zbiorowym...* op. cit., marginal number 4.

⁵² Judgement of the Provincial Administrative Court (WSA) in Wrocław of 2 June 2009, Case No. II SA/Wr 470/08.

⁵³ Judgement of the Supreme Administrative Court (NSA) of 19 June 2008, II OSK 431/08.

⁵⁴ Judgement of the Supreme Administrative Court (NSA) of 19 June 2008, II OSK 431/08).

possibility to include fees for connection to the sewage network in the terms and conditions of water supply and waste water conveyance⁵⁵.

Referring the above general remarks to the circumstances of entities discharging industrial waste water, it should be noted that if the real property where a given industrial plant is to be built has not been connected to the sewage network yet, it is required to follow the connection procedure. In the area of MPWiK's operation the conditions of connection to the sewage network are defined in § 14 of Reg.dwoś. Under this section of the resolution, "the connection to a water supply or sewage network shall be allowed upon meeting the following conditions:

- 1) Project Owners shall obtain from the Service Provider the technical specifications for supplying water to, and conveying waste water from, the real property;
- 2) Project Owners shall submit the engineering documentation, prepared at the project owner's expense for the Service Provider's approval, in accordance with the technical specifications which were obtained from the Service Provider;
- 3) Project Owners shall build the lateral line according to the approved engineering documentation;
- 4) Project Owners shall meet the conditions specified in § 19."

While § 14 of reg.dwoś sets out general guidelines for project owners, the procedure leading to the provision of services requires numerous other actions. The connection of the real property is not sufficient to begin providing services on behalf of a specific entity. Pursuant to Article 6(1) of uzzw the supply of water or waste water conveyance is performed under a written agreement for water supply or waste water conveyance entered into between the water and sewage management company and a given service recipient. In practice, an additional agreement is required to begin providing the services.

Step 1. Determining whether a given property is located within an area covered by a municipal sewage network

The first step to be taken by project owners before they take actions aimed at providing the connection to the sewage system is to determine whether a given real property is located within an area of an existing municipal sewage network. There are at least two ways to determine this issue.

⁵⁵ The resolution on approving the terms and conditions becomes invalid in this respect. According to the case law, the matter of resolutions on the share of unspecified number of residents in the costs of building a sanitary sewage network is resolved unanimously - such resolutions are local legal acts issued without any legal basis. See: B. Brynczak, *Komentarz do art. 15 uzzw* [Commentary to Article 15 of uzzw] [in:] *Ustawa o zbiorowym...* op. cit., marginal number 4. See also the case law referred to in the publication.

I. Obtaining an extract from the local land development plan confirming the existence of service infrastructure on a given plot of land

If no local land development plan exists for a given part of the city (commune), the project owner will be required to obtain a zoning approval in subsequent stages of the project. Pursuant to Article 61(1)(3) of upzp, it is only possible to issue a zoning approval if the existing or planned service infrastructure is sufficient for the construction project⁵⁶. What is important, the condition referred to in Section 1(3) is considered fulfilled if the construction of the service infrastructure is stipulated in the agreement entered into between a competent organisational unit and the project owner.

It should be stressed that administrative courts display a liberal approach to interpreting the aforementioned condition. The condition referred to in Article 61(1)(3) of upzp is considered fulfilled if the project owner has obtained assurance from utility companies that such agreements will be executed in the future. As pointed out by the Supreme Administrative Court (NSA) in a judgement of 20 February 2019⁵⁷, “the provision laid down in Article 61(1)(3) of upzp does not make the issuance of a zoning approval conditional upon the existence of the service infrastructure, but on the guarantee that such service infrastructure, sufficient for a given construction project, will be developed. Moreover, in the view of the NSA “the guarantee under an agreement is not equivalent to the obligation to produce such agreement in the course of applying for the zoning approval, but to holding an assurance or guarantee that such agreement is due to be concluded in the future”⁵⁸.

II. Obtaining assurance from MPWiK in Warsaw on the possibility to connect the real property to the sewage network (obtaining the so called technical information)

If it is not possible to produce an extract from the local land development plan, the entity wishing to be connected to the network may obtain information on the availability of services directly from MPWiK free of charge. The entitlement is set out in § 13(3) of Reg.dwoś. To fulfil this obligation, MPWiK prepares the so called technical information. It should be stressed that the technical information is not equivalent to “sewage service connection technical specifications”, which will be discussed further in this study.

Ordering the preparation of technical information

In order to obtain technical information, the interested entities should file an Order for the preparation of technical information. To this end, they can use the order form available on MPWiK’s website⁵⁹.

⁵⁶ The term “service infrastructure”, as laid down in the upzp, is understood as roads, building structures, facilities and conduits referred to in Article 143(2), i.e. water supply, sewage, heating, electrical, gas and telecommunications conduits and facilities build under, on or over ground.

⁵⁷ Case file: II OSK 826/17, final and binding judgement.

⁵⁸ Similar views can also be found in earlier court decisions. See: Judgement of the NSA of 25 June 2013 (II OSK 428/13), in which the court found that the stage in which the zoning conditions are defined is a preliminary stage of project implementation, and therefore it would be too rigorous to demand that all the service infrastructure conditions should be determined in a definite way. This can also be implied from Article 61(1)(3) of upzp, which refers to both the existing and planned service infrastructure.

⁵⁹ Order for the preparation of technical information, MPWiK in Warsaw, Version 04 of 12/03/2019, available on-line, <<https://www.mpwik.com.pl/download.php?id=2532>>, accessed on 29/08/2019.

However, the interested entity is not obliged to apply for the preparation of technical information using the form which MPWiK provided. Water and sewage management companies will also examine applications prepared by the interested entity, provided that it includes at least the following information:

- 1) Project Owner's details;
- 2) Ordering Party's details (if the owner is represented by another entity)
- 3) The type of required preliminary technical information (e.g. information that the application refers to the conveyance of industrial waste water);
- 4) Information on the type of the building structure on site of the real property to be connected, including:
 - a. information whether the building is currently under construction or in the design stage,
 - b. description of the building (e.g. service, commercial, office, production premises or a public utility building, etc.)
- 5) The address of the project (with a land plot and precinct number, and the name of the city district in which it is located).

The technical information order should be appended with:

- 1) A copy of the current master map in 1:500 scale (or in 1:1000 if a master map in 1:500 scale is not available) with the footprint of the real property concerned.

Table No. 3 lists the addresses of offices where the current copy of the master map can be obtained from the district geodetic and cartographic resources.

No.	Name of map records department	Address	Area covered by MPWiK's services
1.	City of Warsaw Geodesy & Cadastre Department	ul. Sandomierska 12 02-567 Warszawa	Warsaw
2.	District Governor's Office in Pruszków Geodesy & Real Property Management Department	ul. Drzymały 30 05-800 Pruszków	Pruszków, Piastów, Michałowice commune
3.	District Governor's Office in Legionowo Geodesy Department	ul. Gen. Władysława Sikorskiego 11 05-119 Legionowo	Wieliszew, Serock, Nieporęt, Legionowo

Table No. 3. List of offices providing copies of master maps from the geodetic and cartographic resources for the area covered by MPWiK's services

The contents of the application form for providing access to materials from the district geodetic and cartographic resources, including copies of a current master map, are defined in Annex No. 3 to the Regulation of the Minister of Administration and Digitisation of 9 July 2014 on providing access to the state land surveying and cartographic resources, issuing permits and template Fee Calculation Document (Journal of Laws of 2014, item 917). What is important, applicants wishing to obtain the

current copy of the master map should fill in form P and form P3, which includes additional details supplementing the application for the access to the cadastral map or the master map.

In certain circumstances, the applicants may be required to attach additional documents, including:

- 1) **a site plan** - if the query refers to projects in the design stage or where existing facilities are being extended;
- 2) **a power of attorney to represent the project owner** - if the owner is represented by another entity.

In addition to the above elements, the application for the preparation of technical information should meet the formal requirements of an official letter (place, date and signature of the ordering party or the project owner).

Place where orders can be filed:

Orders for the preparation of technical information may be filed:

- 1) **in person** at the MPWiK Customer Service Department at:
 - a) pl. Starynkiewicza 5, 02-015 Warszawa (customers can book a visit at the MPWiK website⁶⁰)
 - b) ul. Zaruskiego 4, 00-468 Warszawa
- 2) **via a postal service**, by sending the letter to one of the foregoing addresses

Receipt of technical information

Neither the uzzw act nor the Reg.dwoś regulation set out the time limit for preparing the technical information. However, according to the information published by MPWiK on its website, the technical information is usually prepared within 21 calendar days of the date the order is filed with MPWiK. The ordering party receives the reply by post or is informed via a text message, e-mail or in writing that the reply can be collected (if the ordering party has marked the “collect the reply in person” option).

The preparation of technical information is free-of-charge.

Step 2. Applying to MPWiK for the issuance of technical specifications

Any entity interested in the construction of a new lateral line to the existing or planned building must obtain technical specifications⁶¹. As laid down in § 14(1) of Reg.dwoś, obtaining from the Service

⁶⁰ The on-line booking service is available on <<http://webqms2.pl/mpwik/public/>>, accessed on 29/09/2019.

⁶¹ This obligation also refers to persons who are planning to extend an existing building or to change the intended use of an existing building.

Provider (MPWiK) the technical specifications of discharging waste water from the real property area is a mandatory condition for connecting the real property to the sewage network.

To this end, the entity concerned should file with MPWiK an application for the issuance of technical specifications.

Elements of the application for the issuance of technical specifications

Pursuant to § 15(1)(2) of Reg.dwoś the application for the issuance of technical specifications should include:

- 1) the applicant's name and mailing address;
- 2) Information on the water requirement, including domestic water use, and fire flow in dm³/s and/or the quantities of the waste water discharged in dm³/s, and information on the planned number of residents or users of the buildings in questions;
- 3) the original or copy of the current master map in 1:500 or 1:1000 scale with the marked location of the building to which water is to be supplied or from which waste water is to be discharged⁶²;
- 4) A site plan of the plot of land or area prepared on a copy of the current master map, including:
 - The boundaries of the plot of land or area, the location, the footprint and layout of the existing or planned building structures, and service infrastructure networks,
 - The method of conveying or treating waste water,
 - Traffic circulation system and landscape design, indicating characteristic elements, dimensions, ground elevation and mutual distances between individual facilities, in relation to existing or planned neighbouring development - for facilities at the design stage;
- 5) Identification of the type of the lateral line (water supply and/or sewage);
- 6) Applicant's signature.

In certain situations, additional documents may be required, e.g. **power of attorney to represent the project owner** – if the owner is represented by another entity, or an agreement in the event of multi-family/office/commercial buildings.

Although it is not expressly laid down in § 15(1) of Reg.dwoś, applications for the connection of real property from which industrial waste water will be discharged should also indicate that special type of waste water, i.e. industrial waste water, is to be discharged from the real property concerned. As

⁶² For detailed information on obtaining the aforementioned data, see Step 1.

laid down in § 5 of the Regulation on the methods of performing the duties of industrial waste water suppliers, “industrial waste water suppliers provide the required data on production type and volume and relevant technological processes, and about waste water management in the plant, in order to determine the quantity and the distribution of the industrial waste water influent in time, and the type of pollutants.”

The disclosure of the aforementioned data at the application stage may be significant, since MPWiK is required to determine the permissible quantity and quality of the waste water conveyed from a given real property, as well as the assessment of the technical feasibility of the connection. Theoretically, having obtained information on the characteristics of waste water, the water and sewage management company may decide that the discharge of the waste water to the sewage network owned by MPWiK will not be possible (e.g. the generated substances will not be prone to mechanical and biological waste water treatment, and will require management in a waste treatment system)⁶³.

Moreover, if the business activities involve the discharge of substances that are particularly harmful to the aquatic environment to the sewage system owned by MPWiK, the applicant should notify of the fact upon submitting the application for the issuance of technical specifications. Also, in line with the provisions of § 15(5) of Reg.dwoś, the issuance of technical specifications may be conditioned upon the submission of the required additional documents by the Service Provider. It seems that if there is a risk of releasing substances that are particularly harmful to the aquatic environment to the sewage network in relation to the system being designed, MPWiK may request the project owner to produce additional documents (e.g. documents concerning the planned pre-treatment methods prior to releasing the waste water to the sewage system or a water management report, which will be appended to the application for the issuance of a water law permit for the discharge of industrial waste water containing substances that are particularly harmful to the environment to the sewage facilities owned by MPWiK).

It is worth noting that MPWiK provides on its website an order form for the preparation of technical specifications of connecting to the water supply or sewage networks⁶⁴.

Place where orders can be filed:

Orders for the preparation of technical specifications may be filed

- 1) in person** at the MPWiK Customer Service Department at:

⁶³ See: § 8 of the Regulation on the methods of performing the duties of entities generating industrial waste water.

⁶⁴ Order for the preparation of technical specifications of connecting to water supply or sewage networks, MPWiK in Warsaw, Version 04 of 12/03/2019, available on-line: <<https://www.mpwik.com.pl/download.php?id=2531>> accessed on 29/08/2019.

a) pl. Starynkiewicza 5, 02-015 Warszawa (customers can book a visit via the MPWiK website⁶⁵)

b) ul. Zaruskiego 4, 00-468 Warszawa

2) via a postal service, by sending the letter to one of the foregoing addresses.

Time limit for the issue of technical specifications by MPWiK

The time limit for the issue of technical specifications is laid down in § 15(1) of Reg.dwoś. The Service Provider is obliged to issue technical specifications or refuse to issue technical specifications without undue delay, no later than within

- 1) **14 days** - for single-family buildings, including farmstead development;
- 2) **30 days** - for the remaining types of buildings

calculated of the date of filing a complete application.

In practice, technical specifications should be issued by MPWiK to a potential industrial waste water supplier no later than within 30 days. This time limit does not include any delays on the part of the project owner, or due to circumstances beyond the control of the Service Provider, in particular the period required for the elimination of formal shortcomings of the application. Pursuant to §15 (4) of Reg.dwoś, if the Project Owner fails to supplement the application within a set time limit, the Service Provider may leave the application unconsidered.

The contents of technical specifications

Pursuant to § 15 of the said Regulation, technical specifications define:

- 1) the technical feasibility of connecting the real property concerned to water supply or sewage networks,
- 2) the maximum daily water abstraction demand,
- 3) the location of the main water meter and measurement device, unless it is not possible to define the location at the stage of issuing technical specifications,
- 4) the permissible quantity and quality of the waste water discharged,
- 5) the validity of the technical specifications of connecting the real property concerned to water supply or sewage networks.

⁶⁵ The on-line booking service is available on <<http://webqms2.pl/mpwik/public/>>, accessed on 29/09/2019.

The validity of the technical specifications

Pursuant to § 17(1) of Reg.dwoś, technical specifications are valid for two years of the issue date. During this period, the engineering documentation may be approved by the Service Provider on the basis of the technical specifications obtained. If the Project Owner submits the engineering documentation for approval after two years following the issue of the technical specifications, MPWiK will be obliged to refuse such approval.

Step 3. Ordering the preparation of a lateral line design to an authorised designer

Having obtained the technical specifications and the water law permit, the project owner may proceed to prepare the engineering documentation for the lateral line.

What is important, the designer should not only act in line with the guidelines laid down in the aforementioned documents, but also with the currently binding legal regulations listed in this study (see: list of legal acts). It is worth noting that MPWiK published Guidelines for the preparation of engineering documentation and the construction of water supply and sewage conduits and lateral lines, and lift pump stations. The document includes a summary of basic requirements which must be taken into consideration while preparing engineering documentation and building water supply and sewage conduits, lateral lines and lift pump stations in the area of Warsaw and neighbouring towns and communes situated within the MPWiK area of operation.

Step 4. The approval of technical specifications by MPWiK

The stage preceding the connection of a given real property to the sewage network is the approval of technical specifications (§ 16(1) of Reg.dwoś). To this end, the Project Owner is obliged to submit relevant engineering documentation and attach

- 1) Minutes of the coordination session organised by the District Governor, if required or requested,
- 2) a cadastral base map with the lateral line route, if the lateral line is designed and the coordination session has not been requested;
- 3) a document confirming that the Project Owner may use the real property for construction purposes (e.g. an excerpt from the land and mortgage register, a certified copy of a notarial deed, a tenancy agreement, a lease agreement, an administrative decision, an excerpt from the land register, court decision etc., or a declaration on the entitlement to use the real property for construction purposes).

MPWiK published on its website an order form for the approval of engineering documentation concerning the water supply or sewage lateral line⁶⁶. The documents which should be attached to the order include:

- 1) three copies of the engineering documentation;
- 2) technical specifications issued by MPWiK;
- 3) approval of the land owner (signature of the owner on the engineering documentation or an attached declaration confirming that the owner read the engineering documentation) and attached power of attorney, if the owner is represented by another entity;
- 4) a photocopy of a document confirming designer's qualifications, and a declaration on the membership in a competent Chamber of Civil Engineers.
- 5) as regards the engineering documentation of a sewage lateral line: two copies of a completed agreement signed by the project owner; the template agreement is available on the company's website: www.mpwik.com.pl⁶⁷.

Similarly to Steps 1 and 2, the order may be filed in person at the Customer Service Department or by post.

The time limit for examining the matter

Under § 16(1) of Reg.dwoś, MPWiK is obliged to approve the engineering documentation without delay or, if any inconsistencies are found between the solutions adopted in the engineering documentation and the applicable legal regulations, standards and technical specifications, to report reservations, **within a maximum of thirty days of the documentation submission date.**

The 30-day time limit does not include any delays on the part of the project owner, or delays due to circumstances beyond the control of the Service Provider, in particular the period required for the elimination of shortcomings of the documentation.

Form of approval

The Service Provider confirms the approval by a relevant annotation on the submitted engineering documentation, and such form of documentation approval is understood as meeting the technical requirements defining the possibility to use water supply and sewage services.

⁶⁶ Order for the approval of engineering documentation concerning water supply or sewage lateral line, MPWiK Version 03 of 12/03/2019, available on line on: < <https://mpwik.com.pl/download.php?id=2524> >, accessed on 29/08/2019.

⁶⁷ Although the obligation to submit the above documents is not expressly stated in the Reg.dwoś, it can be said that MPWiK may require such documents pursuant to § 11(4) of Reg.dwoś. Pursuant to this provision, the Service Provider is entitled to demand any additional documents and information required to appropriately define the terms of the prospective agreement.

Validity of the approval

The approved engineering documentation expires after three years of the approval date. It should be stressed that in the event of beginning the construction of the lateral line in the aforementioned period, the engineering documentation remains valid (See: § 17(2) of Reg.dwoś).

Step 5. The construction of the lateral line based on the approved engineering documentation and submission of application for entering into an agreement for the waste water conveyance

Pursuant to § 18(1) of Reg.dwoś, the Project Owner is obliged to inform MPWiK about the date on which the construction works are due to begin, by sending a written notification to that effect at least seven days in advance. Moreover, the Project Owner is obliged to attach to the written notification an application for entering into an agreement for the waste water conveyance together with documents referred to in § 11 of Reg.dwoś⁶⁸.

Pursuant to §18(3) of Reg.dwoś the Project Owner is obliged to facilitate technical inspections to be performed by the representative of the Service Provider during the construction of a water supply or sewage lateral line, the Service Provider covers the costs of the technical inspections.

All the following obligations are considered fulfilled by submitting an application for entering into an agreement for the technical supervision over the construction of the lateral line, for the connection of the sewage network, and for the preparation of the agreement for the waste water conveyance. The following documents should be attached to the aforementioned application:

- 1) a document verification sheet - for the lateral line;
- 2) an original approved lateral line design;
- 3) a valid document confirming the title to the real property concerned, e.g. an excerpt from the land and mortgage register, an excerpt to from the land register (these documents should be issued no earlier than within three months of the application date), a certified copy of a notarial deed, a tenancy agreement, a lease agreement or other type of agreement, an administrative decision, a court decision, etc.;
- 4) a decision of a competent public administration authority on the assignment or change of the real property address - if the real property address has not been expressly indicated in the title document (the document should be issued no earlier than within three months of the application date);
- 5) a declaration on the entitlement to use the real property for construction purposes (the document should be issued no earlier than within three months of the application date);

⁶⁸ Where it is necessary to remove an existing water supply or sewage lateral lines, the project owner should also attach an application for the removal of such lateral lines (§18(2)).

- 6) As regards commercial companies - KRS [*Excerpt from the Business Register*], a NIP [*Tax Identification Number*] certificate, a REGON [*Business Registry Number*] certificate (the document should be issued no earlier than within three months of the application date);
- 7) As regards civil-law partnerships – a NIP certificate, a REGON certificate, Articles of Association, a certificate confirming the entry in the Central Business Register and Information Service (the document should be issued no earlier than within three months of the application date);
- 8) Details of contractor's field superintendent (name, address of residence, building licence No., phone No./e-mail, and in the event of first-time cooperation with our company, a photocopy of site engineer qualifications);
- 9) Details of the contractor (name and registered office address, NIP, Phone No./e-mail);
- 10) Power of attorney - if the agreement for the technical supervision over the construction / reconstruction works is signed by a person other than the project owner, and where the project owner is a legal person, a partnership, a civil-law partnership or a commonhold association, the document should also be signed by persons authorised to represent the company under relevant registers, records or under a written authorisation, drawn up according to the template available at MPWiK's website⁶⁹.

The place where applications can be filed

Unlike the application for the issuance of technical specification, the applications for entering into an agreement for technical supervision of lateral line construction should be filed in person, at the Construction & Renovation Projects Department, ul. Brukselska 21 (Room B 12), 03-973 Warszawa, open Monday to Thursday, 7:30 a.m. - 2:30 p.m., or by post to the same address.

Please note that the Project Owner is obliged to facilitate technical inspections to be performed by the representative of the Service Provider during the construction of a water supply or sewage lateral line. Therefore, the project owner should entrust the performance of the works to a selected contractor after the agreement for the supervision is signed.

Step 6. Commissioning of the lateral line

The principles of commissioning are defined in § 19 of Reg.dwoś. The commissioning of the completed lateral line should be performed in line with the following principles:

⁶⁹ Application for entering into an agreement for the technical supervision over the construction of the lateral line, for the connection of the sewage network, and for the preparation of the agreement for the conveyance of waste water. Version 03 of 09/05/2019, available on-line: <<https://www.mpwik.com.pl/download.php?id=2670>> accessed on 29/08/2019.

- 1) A person performing the commissioning (i.e. Building Control Inspector indicated in the agreement for the supervision over the construction/reconstruction of lateral line)
 - a) checks whether the works have been performed correctly in line with the technical specifications and the approved engineering documentation, and if any irregularities are found, requests for their removal,
 - b) confirms that the works which the Project Owner or an authorised person notified have been completed,
 - c) checks the **as-build documentation** regarding the lateral line;
- 2) The Service Provider, following the construction of a tie-in point and
 - a) the installation of the water meter (in respect of a water supply lateral line),
 - b) the connection of an in-building system with the sewage lateral line (in respect of sewage),

- together with the Project Owner signs **an Inspection and Commissioning Report** concerning the service line in question. If there is a need to remove an existing water supply or sewage lateral line, a report on permanent removal is also drawn up.
- 3) The commissioning report regarding the lateral line should include, in particular
 - a) the date of signing the report
 - b) the address of the real property connected to the network,
 - c) details of the project owner and the contractor,
 - d) details of the construction of the lateral line, assembly of the water meter/measurement device and the technical details of the lateral line,
 - e) declarations on the use of the lateral line,
 - f) signatures of the project owner, contractor and representative of the Service Provider;
- 4) The signed original Inspection and Commissioning Report concerning the lateral line confirms the correct construction of the lateral line. The original Inspection and Commissioning Report is kept by the Service Provider;
- 5) The Project Owner submits with the Service Provider an original and copy of the as-built survey of the lateral line and the tie-in points within three months of the date on which the inspection and commissioning report was signed.

Furthermore, as follows from the procedure published on MPWiK website, the Contractor (or alternatively the Project Owner) should provide to the inspector a report on the density of soil within

the strip of land covered by the construction works. If the documents are not submitted within a set time limit, MPWiK recommends the performance of an as-built survey of the lateral line and the tie-in point at the Project Owner's expense.

It should be noted that the as-built documentation concerning the newly built sewage lateral line includes

- 1) a field sketch from the measurement made on site of the lateral line by a land surveyor, together with a certificate confirming that the said sketch has been filed with the geodetic & cartographic data centre,
- 2) 3 copies of the as-built plan of the sewage lateral line⁷⁰.

3.1.3. The procedure aimed at issuing a water law permit

In addition to the connection procedure, industrial waste water suppliers may be obliged to fulfil other formal and legal requirements before proceeding to use MPWiK's services. As indicated in Part 2.2.1, if industrial waste water discharged to sewage facilities owned by other entities contains substances that are particularly harmful to the aquatic environment, an entity discharging such waste water to sewage systems is obliged to obtain a water law permit⁷¹.

Given the specific nature of activities related to discharging industrial waste water, and most of all the formal and legal obligations imposed on entities discharging substances that are particularly harmful to the aquatic environment, other activities which should be undertaken by enterprises, from making a decision to begin implementing a given project through entering into an agreement with MPWiK to the actual waste water discharge will be described further in this study.

Step 1. Filing an application for granting a consent for the discharge to sewage facilities of industrial waste water containing substances that are particularly harmful to the aquatic environment

Any entity which is planning to discharge industrial waste water containing substances that are particularly harmful to the aquatic environment **must obtain a consent to discharge such waste to sewage facilities from MPWiK**. Under Article 34(3) of the Water Law, special use of water also includes discharge to sewage facilities owned by other entities of industrial waste water containing substances that are particularly harmful to the aquatic environment. The list of substances particularly harmful to the aquatic environment the discharge of which in industrial waste water to sewage facilities requires a water law permit is set out in Annex No. 1 to the Regulation of the

⁷⁰ As regards a water supply lateral line, the as-built documentation includes an as-built plan of the water-supply lateral line and additionally the results of a bacteriological test confirming the condition of water in the previously rinsed lateral line.

⁷¹ The list of substances that are particularly harmful to the aquatic environment the discharge of which in industrial waste water to sewage facilities requires a water law permit is set out in Annex No. 1 to the Regulation of the Minister of Maritime Economy and Inland Navigation of 28 June 2019 (Journal of Laws of 2019, item 1220).

Minister of Maritime Economy and Inland Navigation of 28 June 2019 (Journal of Laws of 2019, item 1220; see Table No. 1 in part 2.2.1).

If there is a risk of discharging substances listed in the aforementioned Regulation to sewage facilities in relation to the planned operations, the entity applying for connecting to sewage network should remember about the obligation to obtain a consent from MPWiK to discharge such water to the sewage network. Pursuant to Article 407(5) of the Water Law, the application for the issuance of a water law permit for the discharge to sewage facilities of industrial waste water containing substances that are particularly harmful to the aquatic environment must **be supplemented by a consent granted by the owner of such facilities.**

The moment of obtaining the consent

Neither the uzzw act nor the Reg.dwoś regulation define the point when a project owner should obtain the above consent. In general, the consent procedure may be carried out concurrently with the connection procedure. **From a practical point of view, a good time for filing an application for the consent to discharge industrial waste water to sewage devices is the point when the application for the issuance of technical specifications is submitted.** Although the contents of the technical specifications are much more complex than the declarations of a water and sewage management company on the consent to connect a supplier of industrial waste water containing substances that are particularly harmful to the aquatic environment to a sewage network, both documents have a similar function. It is difficult to imagine a situation when a water and sewage management company refuses to issue technical specifications and consents to the discharge to sewage facilities of industrial waste water containing substances that are particularly harmful to the aquatic environment.

The form of the application for granting a consent

The legislator does not define a special form of applications for granting a consent. In practice, such application should include details similar to those which are required for applications for the issuance of technical specifications, i.e.

- 1) the applicant's name and mailing address,
- 2) information on the location of the facility concerned, including the exact location of the place where the industrial waste water is discharged (identification of the sewer and its diameter⁷²);
- 3) The description of business activities related to the generation of industrial waste water;

⁷² For instance, the discharge of industrial waste water to a combined sewer (Dn 0.30 m) along Kasprzaka St.

- 4) information about the quantity and composition of the waste water discharged to sewage facilities, including information on the substances that are particularly harmful to the aquatic environment which are due to be discharged to the MPWiK sewage system;
- 5) information about the facilities used for waste water treatment before it is discharged to the sewage network;
- 6) a water management report (available for review);
- 7) the Applicant's signature.

As stated above, MPWiK may request a water management report which includes a detailed description of waste water treatment methods, and contains information on the quantity and quality of the waste water discharged to sewage facilities. MPWiK may also demand additional materials entailing a layout drawing which shows the location of the facility. Thus, applicants should consider taking actions aimed at obtaining the layout drawing before submitting the applications, as it will reduce further application procedure time at MPWiK.

The place where applications can be filed

The Waste Water Technology Department handles matters related to the discharge of industrial waste water containing substances that are harmful to the environment. Detailed information on the permit procedure can be obtained at the following e-mail address: **dts@mpwik.com.pl**.

Industrial waste water suppliers who are not planning to discharge to the sewage system any substances that are particularly harmful to the aquatic environment are exempt from the obligation to obtain such permit from MPWiK or any water law permit. **Thus, the aforementioned procedure is not applicable to those entities.**

Step 2. Filing an application with "Wody Polskie" for the issuance of a water law permit.

The discharge to sewage facilities of industrial waste water containing substances that are particularly harmful to the aquatic environment requires a water law permit (Article 34(3) of the Water Law in conjunction with Article 389(2)). The water law permit includes:

- 1) the quantity of waste water discharged to sewage facilities, including the maximum number of m³ per second, the average number of m³ per day, and a permissible number of m³ per year, as well as the condition and composition of the waste water entering the system, and the minimum percentage of reducing the quantity of pollutants in the waste water treatment process, and in respect of industrial waste water, the permissible quantity of pollutants, including substances that are particularly harmful to the aquatic environment, expressed in units of weight per one unit of the raw material, material, fuel used or product being manufactured, and the planned method and results of their treatment;

- 2) the dates of water intake and discharge, and of waste water discharge for entities operating on a periodic or seasonal basis, together with details of the parameters of water use in various periods of the plant's operations;
- 3) the commencement date and range of measurements of the quantity and quality of waste water discharged to sewage facilities;
- 4) the location of sample collection.

The competent authority responsible for issuing water law permits

As a rule, the director of a catchment area authority at "Wody Polskie" is competent to issue water law permits. However, pursuant to Article 397(3)(1)(a) indent 7 of the Water Law, the director of the regional water management authority at "Wody Polskie" is competent to handle matters of water law permits for the discharge to sewage facilities of industrial waste water containing substances that are particularly harmful to the aquatic environment, and originating from the operation of systems related to projects referred to in Article 378(2a) of POŚ.

Therefore, if industrial waste water originates from:

- 1) the operation of systems related to projects and events on site of plants operating systems classified as likely to have permanent significant effects on the environment, within the meaning of the Environmental Act;
- 2) projects likely to have permanent significant effects on the environment, within the meaning of the Environmental Act;
- 3) systems requiring a waste generation permit or an integrated permit for regional facilities for municipal waste treatment and for systems defined in the provincial waste management plan as regional systems for municipal waste treatment,

the Director of a regional water management authority at "Wody Polskie" is competent to handle matters of such permits.

The types of projects likely to have permanent significant effects on the environment and the types of projects likely to have significant effects on the environment are defined in the Regulation of the Council of Ministers of 9 November 2010 on projects likely to have significant effect on the environment (consolidated text, Journal of Laws of 2016, item 71). For instance, projects likely to have a permanent significant effects on the environment include such projects related to industrial activities as

- systems for the manufacture of essential pharmaceutical products by applying chemical or biological processes;

- systems for the production of pig iron or steel (primary or secondary fusion), including continuous casting systems;
- dismantling stations within the meaning of the Act of 20 January 2005 on the recycling of end-of-life vehicles (Journal of Laws of 2015, items 140 and 933).

An application for the issuance of a water law permit

Pursuant to Article 407(1) and (2) the water law permit is issued on the basis of application which should be supplemented with

- 1) a water management report, including the date on which it was made and the description of planned activities without technical terms;
- 2) an environmental consent decision, where required;
- 3) an excerpt and a map extract from a local land development plan, and if there is no such plan, a decision on the location of a public utility project, or a zoning approval, where required;
- 4) as water law assessment, where required.

The applicants should also attach:

- 1) a consent from MPWiK for the discharge to sewage facilities of industrial waste water containing substances that are particularly harmful to the aquatic environment, referred to in Step 3;
- 2) a document confirming the payment of a water law permit fee (in 2019, the fee for the issue of a water law permit is PLN 221.34).

The time limit for examining the matter by “Wody Polskie”

Proceedings run before the authorities of “Wody Polskie” are governed by the provisions of the Act of 14 June 1960 - Code of Administrative Procedure (kpa). This means that water law permits should be issued no later than within one month. Notwithstanding the above, exceptionally complex matters should be examined no later than within two months of instituting given proceedings. Pursuant to Article 36(1) of kpa, public administration bodies are obliged to inform the parties about each instance of a delay in examining a given matter, providing the cause of the delay, the final date of examining the matter, and instruction on the right to submit a reminder letter.

It should be noted that pursuant to Article 401(1) of the Water Law, the parties to the proceedings concerning the issuance of water law permits are the applicant and entities which are likely to be affected by the planned water use, or entities situated within the area affected by the operation of

the water facilities due to be constructed. This means that in addition to the project owner, MPWiK is also party to such proceedings as it is an entity likely to be affected by the planned water use.

The validity of the water law permit

Pursuant to Article 400(3) of the Water Law, water law permits for the discharge into water or to sewage facilities owned by other entities of industrial waste containing substances that are particularly harmful to the aquatic environment are issued for a maximum period of 4 years, starting from the date on which a relevant decision becomes final and binding. It is possible to extend the validity of water law permits. As laid down in Article 414(2) of the Water Law, water law permits referred to in Article 389(1-3) of the Water Law, including permits for a special use of water, shall not expire if the plant concerned files an application for determining the subsequent validity period, within 90 days prior to the initial expiration date.

This means that any entity which is willing to continue operating a system from which it discharges industrial water containing substances that are particularly harmful to the aquatic environment may extend the validity period of the water law permit. If the entity concerned fails to file a relevant application, the discharge of industrial waste water to the MPWiK sewage system might be considered illegal.

The moment of obtaining a water law permit

It should be noted that the procedure for obtaining a water law permit is independent of the connection procedure. In practice, the technical specifications for the connection may influence the final content of the water law permit. Given the above, and because the individual stages related to connecting a given real property to the network or obtaining consents is time-consuming, it is recommended that the procedures be carried out concurrently.

3.1.4. Entering into an agreement for public waste water conveyance

Following the commissioning of a sewage lateral line (confirmed by drawing up an Inspection and Commissioning Report), and upon obtaining a water law permit, the waste water supplier may take action aimed at entering into an agreement for the conveyance of industrial waste water.

Pursuant to Article 6(1) of uzzw the waste water conveyance is performed under a written agreement for the waste water conveyance entered into between the water and sewage management company and a given service recipient. The connection of a given real property makes it possible to actually perform the provisions of the agreement, i.e. to provide services entailing the collection and treatment of industrial waste water. In turn, if a water law permit is required and the party concerned fails to produce one, it is difficult to imagine that the agreement for the public conveyance of

industrial waste water containing substances that are particularly harmful to the aquatic environment can be lawfully executed⁷³.

What is important, agreements for the waste water conveyance are not fully covered by the freedom of contracts principle. Statutory provisions not only set out certain elements of the agreement, but most of all impose on water and sewage management companies the obligation to enter into such agreement if the conditions for the connection of a given real property are met and an application for entering into the agreement is filed (Article 6(2) of uzzw)⁷⁴. Moreover, water and sewage management companies are obliged to connect the real property owned by an entity applying for the connection if the conditions for connection, as laid down in the terms and conditions referred to in Article 19, have been fulfilled, and the provision of services is technically feasible.

Pursuant to § 11(1) of rdwoś, “the supply of water and/or the waste water conveyance shall be performed under a written agreement between the Service Provider and the service recipient, including in particular the provisions laid down in Article 6(3) of uzzw.” As laid down in the said Article 6(3) of uzzw, the agreement for the supply of water or waste water conveyance, includes, in particular, provisions concerning:

- 1) the quantity and quality of water supply or sewage services rendered, and the conditions for providing the services;
- 2) the methods and time limits of mutual settlements;
- 3) the rights and obligations of the parties to the agreement;
- 3a) the conditions for repairing failures of water supply or sewage lateral lines owned by the service recipient;
- 4) the procedures and conditions for inspecting water supply and sewage facilities;
- 5) the considerations included in the water law permit, as referred to in Article 18 of uzzw;
- 6) the term of the agreement and the parties' liability for failing to perform contractual provisions, including provisions on terminating the agreement.

Template applications for entering into an agreement for water supply or waste water conveyance are available on MPWiK's website.

3.1.5. Outline of formal and legal relationships related to the waste water conveyance containing substances that are particularly harmful to the aquatic environment

Taking into consideration the procedure for connecting a real property from which industrial waste water is discharged to the sewage network owned by MPWiK in Warsaw, and the administrative,

⁷³ The Water Law and the uzzw act do not define any interrelations between the agreement for public conveyance of waste water and the water law permit. However, entering into such agreement without the required water law permit might lead to far-reaching consequences, including the invalidity of the agreement. This issue should be analysed in greater detail. See: J. Rotko, *Pozwolenie wodnoprawne na wprowadzanie ścieków...* op. cit., pp. 2-13.

⁷⁴ B. Brynczak, *Komentarz do art. 6 uzzw* [Commentary to Article 6 of uzzw] [in:] *Ustawa o zbiorowym...* op. cit., marginal number 1.

legal and civil-law relationships between the waste water supplier and various other entities, the obligations imposed on the entity can be demonstrated in the form of an outline. Simplified formal and legal relationships following the completion of the connection procedure, after obtaining the water law permit and entering into the agreement for public waste water conveyance has been shown in Figure No. 2.

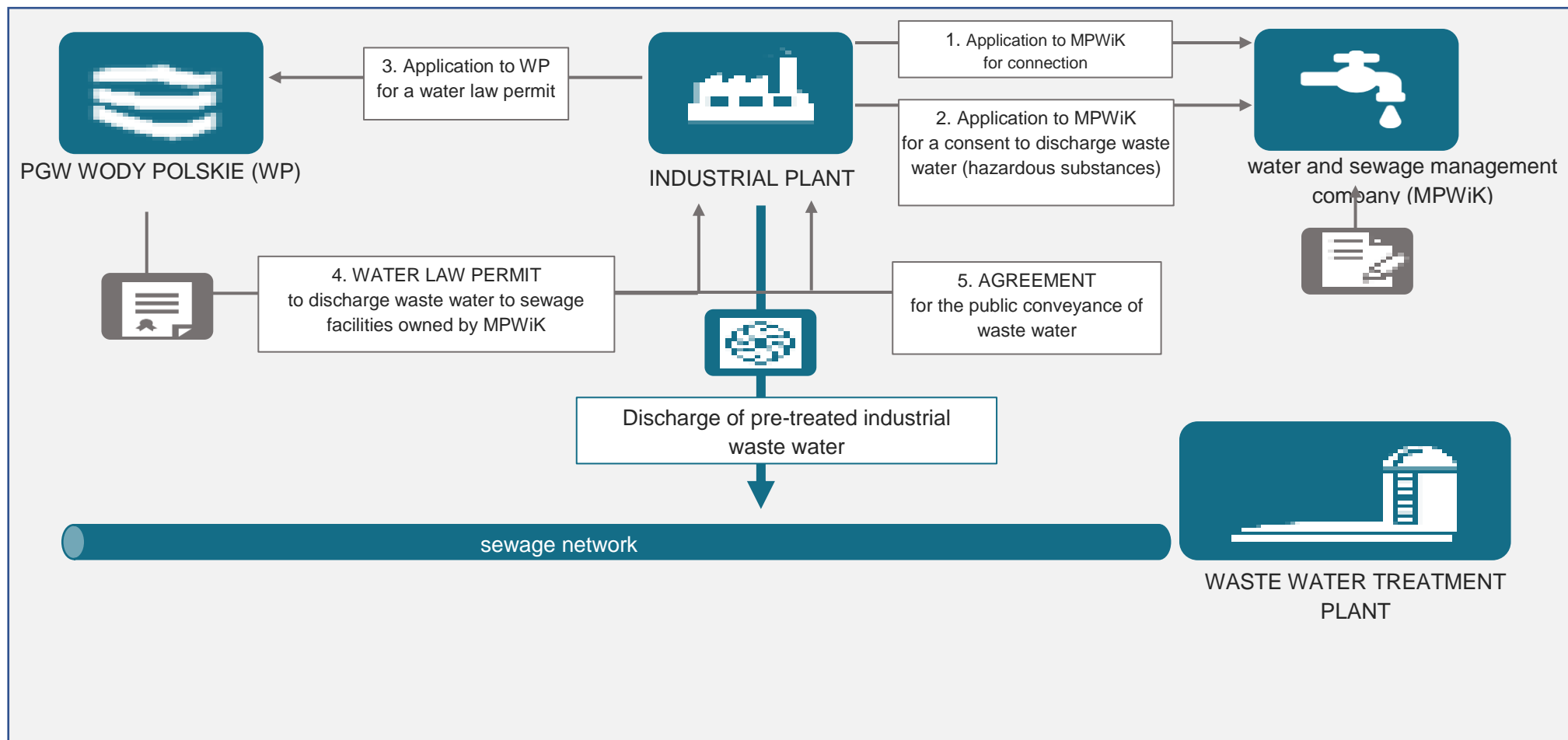


Figure 2. A simplified outline of formal and legal relationships related to the management of industrial waste water as part of the discharge of industrial waste water containing substances that are particularly harmful to the environment to the sewage system owned by a water and sewage management company. Author: M. Maśliński.

3.2. The conditions for releasing liquid waste from industrial plants to septage receiving stations owned by MPWiK

3.2.1. The obligation of real property owners in the field of providing a septic tank for liquid waste and its emptying

The principles of discharging liquid waste in septage receiving stations are not covered by the terms and conditions of water supply and waste water conveyance. What is more, the principles have not been included in the Act of 7 June 2001 on public water supply and public waste water collection. This is due to the fact that the legal issues related to the conveyance of liquid waste are mostly governed by the provisions of the Act of 13 September 1996 on maintaining cleanliness and order in communes, and in implementing regulations adopted on its basis.

As already indicated in previous parts of this analysis, some industrial plants must collect this type of waste water in septic tanks (e.g. due to the fact that the connection to sewage network is not possible). In practice, pollutants which can be found in liquid waste enter municipal sewage system because they are conveyed to waste water treatment plants via septage receiving stations.

Given the above, it is worth remembering that pursuant to Article 5(1)(2) of uspg, real property owners are obliged to maintain cleanliness and order by “connecting the real property to the existing sewage network, or where it is not technically or economically feasible, equipping the real property with a septic tank for liquid waste or private on-site waste water treatment systems, which are in compliance with the requirements defined in separate legal regulations.⁷⁵” Moreover, real property owners are obliged to dispose of liquid waste generated on site the real property in a manner which is compliant with the provisions of the act and separate legal regulations (Article 5(1)(3b) of ucpg).

If a real property is located outside the area covered by the planned sewage network, it is necessary to provide a septic tank on one hand, and on the other hand to dispose of the liquid waste collected in the tank. In practice, it is important how the liquid waste supplier provides evidence of fulfilling the obligation. The issue is laid down in Article 6(1) of ucpg. Pursuant to this provision, the owners of the real property who dispose of liquid waste from the area they occupy are obliged to provide documentary evidence in the form of the service agreement entered into with a commune organisational unit or an enterprise holding a licence for running activities in the field of emptying septic tanks and transporting liquid waste.

This means that real property owners do not fulfil the obligation referred to in article 5(1)(2) of uspg by entering into a relevant agreement with a water and sewage management company but with an entity running activities in the field of emptying septic tanks and transporting liquid waste (!)⁷⁶. From the perspective of an industrial plant, it is essential that, as a real property owner within the meaning

⁷⁵ For more information about the obligation, see Point 3.1 in Chapter 1.

⁷⁶ Such type of activities are very often performed by water and sewage management companies.

of Article 2(1)(4) of ucp⁷⁷ which disposes of liquid waste from the real property area, the entity concerned is obliged to provide documentary evidence as proof of emptying septic tanks (cesspools). The obligation refers to both domestic and industrial liquid waste (waste water). Without going into much detail, it should be stressed that documentary evidence as proof of fulfilling the obligation to dispose of liquid waste collected in the real property area can be provided by:

- 1) entering into an agreement for services performed by a commune organisational unit or an enterprise holding a licence for running activities in the field of emptying septic tanks and transporting liquid waste;
- 2) paying fees for the services.

In the event of a potential inspection concerning the emptying of septic tanks, real property owners (industrial plants) may be requested to produce the aforementioned agreement and documents confirming the payment of fees for the services, to demonstrate that the liquid waste is collected regularly. As shown above, the legislator limited the group of entities with which real property owners may enter into agreements for emptying septic tanks. These services may only be provided by a commune organisational unit or an enterprise holding a licence for running activities in the field of emptying septic tanks and transporting liquid waste. By using the services rendered by such entities, real property owners can be certain that they comply with the conditions laid down in the Regulation of the Minister of Infrastructure of 12 November 2002 on the requirements for vacuum trucks (Journal of Laws of 2002, No. 193, item 1617).

As a result, any entity planning to enter into such agreements should verify in advance whether a given enterprise holds a relevant licence. To this end, they may refer to a list of licences granted by Commune Heads or Mayors⁷⁸. As regards Warsaw, the list of enterprises holding a licence for running activities in the field of emptying septic tanks and transporting liquid waste from the Warsaw area is published on the Public Information Bulletin (BIP) website of the City of Warsaw⁷⁹.

3.2.2. The frequency and methods of removing liquid waste from real properties situated in the Warsaw area

The principles related to the frequency and methods of removing liquid waste from real properties and public utility areas are defined in Resolution No. LXI/1631/2018 of the Warsaw City Council

⁷⁷ Under the aforementioned Article 2(1)(4) of ucp, a real property owner is also understood as co-owner, perpetual lessee, and organisational units and individuals administering or using a given real property, and any other entities holding the real property.

⁷⁸ Pursuant to Article 7(6b) of ucp, a Commune Head or Mayor is obliged to maintain, in an electronic form, a list of granted and revoked licences for running activities in the field of emptying septic tanks and transporting liquid waste.

⁷⁹ *The list of enterprises holding a licence for running activities in the field of emptying septic tanks and transporting liquid waste from Warsaw as at 14 August 2019*, BIP [Public Information Bulletin] of Warsaw, available on-line on the website of the Environmental Protection Department <<https://bip.warszawa.pl/NR/rdonlyres/01F70583-CF7E-4685-BFBE-7915EF6A7C97/1456866/TABELABIPPRZEDSIEBIORCYCIEKLE14082019rzgodaRODO.xlsx>>, accessed on 30 August 2019.

dated 8 February 2018 on the terms and conditions of maintaining cleanliness and order in the Warsaw area (Official Journal of the Mazowieckie Province of 2018, item 1968, as amended). Pursuant to § 21(1) of the Resolution, liquid waste from areas equipped with septic tanks should be removed in time intervals depending on the quantity of liquid waste generated and the capacity of the tank, while ensuring that the tank is used on an ongoing basis and preventing the leakage of the liquid waste outside the tank.

What is important, the minimum frequency of emptying septic tanks is defined in § 21(2) of Reg. ucp. Liquid waste generated in septic tanks must be removed at least once in three months, while site toilets (sanitary cabins) should be emptied at least 3 times a week. According to the terms and conditions quoted above, the Warsaw City Council confirms that liquid waste generated in septic tanks should be removed in the manner defined in Article 6(1) of ucpg. In other words, the City of Warsaw Council has not decided to use the competences set out in Article 6(1a) of ucpg, under which the council may determine other ways to document that the obligations referred to in Article 5(1)(3b) of ucpg has been fulfilled.

It should be noted that the area governed by the provisions of Reg. ucpg does not cover the area governed by Reg. dwoś. This results from the fact that the 2005 Agreement refers only to entrusting the City of Warsaw with tasks covering public water supply and public waste water conveyance. This does not cover the tasks related to liquid waste management, which is governed by the ucpg act.

3.2.3. The issue of delivering liquid waste containing substances that are particularly harmful to the environment – water law permit issues

The issue of handling liquid waste containing substances that are particularly harmful to the aquatic environment is crucial from the legal point of view. Such waste water is not usually discharged by waste water suppliers (industrial plants) to sewage facilities owned by MPWiK. These services are provided through the agency of a commune organisational unit or an enterprise holding a licence for running activities in the field of emptying septic tanks and transporting liquid waste. In practical terms, a question may be posed whether waste water suppliers should obtain a permit for releasing to MPWiK's sewage facilities industrial waste water containing substances that are particularly harmful to the aquatic environment (see: Article 34(3) in conjunction with Article 389(2) of the Water Law).

The aforementioned issue has not been the subject-matter of a wide-ranging discussion in the legal doctrine. Also, the case law referring to this issue is insufficient. While it is possible to find publications on such type of water law permits, the issue has not been given enough attention yet⁸⁰.

⁸⁰ For more details see: J. Rotko, *Pozwolenie wodnoprawne na wprowadzanie ścieków...* op. cit., pp. 2-13.

Nonetheless, based on the systemic interpretation, and taking into consideration the existing practice of competent authorities in the matters of water law permits, both under the “old” and the “new” Water Law, such discharges should be restricted. This is due to the fact that obtaining a water law permit for the discharge of this type of waste water to MPWiK’s septage receiving station facilitates stricter control over the quality of the liquid waste discharged to the enterprise’s sewage facilities.

In the opinion of the authors of this study, entities which discharge such type of industrial waste water should therefore follow the procedure for obtaining a water law permit. In such case, the entity delivering waste water should follow a similar procedure as the one described in point 3.1.3.

It seems that obtaining a permit from a water and sewage management company for the discharge to sewage facilities of liquid waste (industrial waste water) containing substances that are particularly harmful to the aquatic environment, and then the water law permit, does not require a further agreement between the producer of waste water and the water and sewage management company. This results from the fact that after such waste water is collected the producer of waste water has limited control over the way the liquid waste will be handled by an enterprise running business in the field of emptying septic tanks and transporting liquid waste⁸¹ (e.g. it might be mixed with other waste water from another plant).

3.2.4. The conditions for releasing liquid waste to septage receiving stations

The general principles of discharging liquid waste to septage receiving stations are laid down in the Regulation of the Minister of Infrastructure of 17 October 2002 on discharging liquid waste to septage receiving stations (Journal of Laws of 188, item 1576). It is worth noting that the provisions of the said regulation do not take into account the producer of waste water, and set out only the right and obligations of the

- 1) “**receiving station owner**” understood as an organisational unit and a person managing or using a septage receiving station, and other entities holding the septage receiving stations, and
- 2) “**waste water supplier**” understood as an enterprise running activities in the field of emptying septic tanks and transporting liquid waste under a licence granted under the provisions of the Act on maintaining cleanliness and order in communes.

The Regulation does not define the obligations imposed on entities generating liquid waste.

Without going into much detail as regards the technical solutions set out in Roz.wwnc, we should focus on several key provisions. Firstly, liquid waste delivered to a septage receiving station by one vacuum truck **cannot be a mixture of domestic waste water and industrial waste water**. As laid down in § 7(1) of Roz.wwnc, entities delivering liquid waste discharge them in a septage receiving

⁸¹ In practice, we cannot rule out the possibility of agreements between a producer of waste water and a water and sewage company, although it would seem that such agreements would be an innominate contract entered into in line with the freedom of contracts principle.

station if the agreement entered into with the owner of the septage receiving station defines, in particular:

- 1) monthly volume and type of liquid waste transported to the septage receiving station;
- 2) the permissible volume of pollutants in the liquid waste delivered to the station;
- 3) the location, frequency and methods of collecting the test samples of liquid waste.

The legislator also referred to the issue of quality controls of the waste water delivered to stations in the provisions laid down in § 7(2) of Roz.wwnc. Under this provision, test samples for the purposes of determining the condition and composition of any discharged liquid waste need to be taken in the presence of the liquid waste supplier or of their authorised representative, and at the sample-taking location defined in the agreement. It is worth mentioning that the collection of liquid waste in septage receiving stations is confirmed by filling out a form defined in an Annex to Roz.wwnc.

3.2.5. Outline of formal and legal relationships related to the discharge of liquid waste containing substances that are particularly harmful to the aquatic environment in septage receiving stations

As regards the discharge of liquid waste containing substances that are particularly harmful to the aquatic environment in septage receiving stations, the procedure can be demonstrated using a simplified outline of administrative, legal and civil-law relationships between a producer of waste water (industrial plant), a waste water supplier (an entity collecting waste water) and a water and sewage management company. Simplified formal and legal relationships in this model have been shown in Figure No.3.

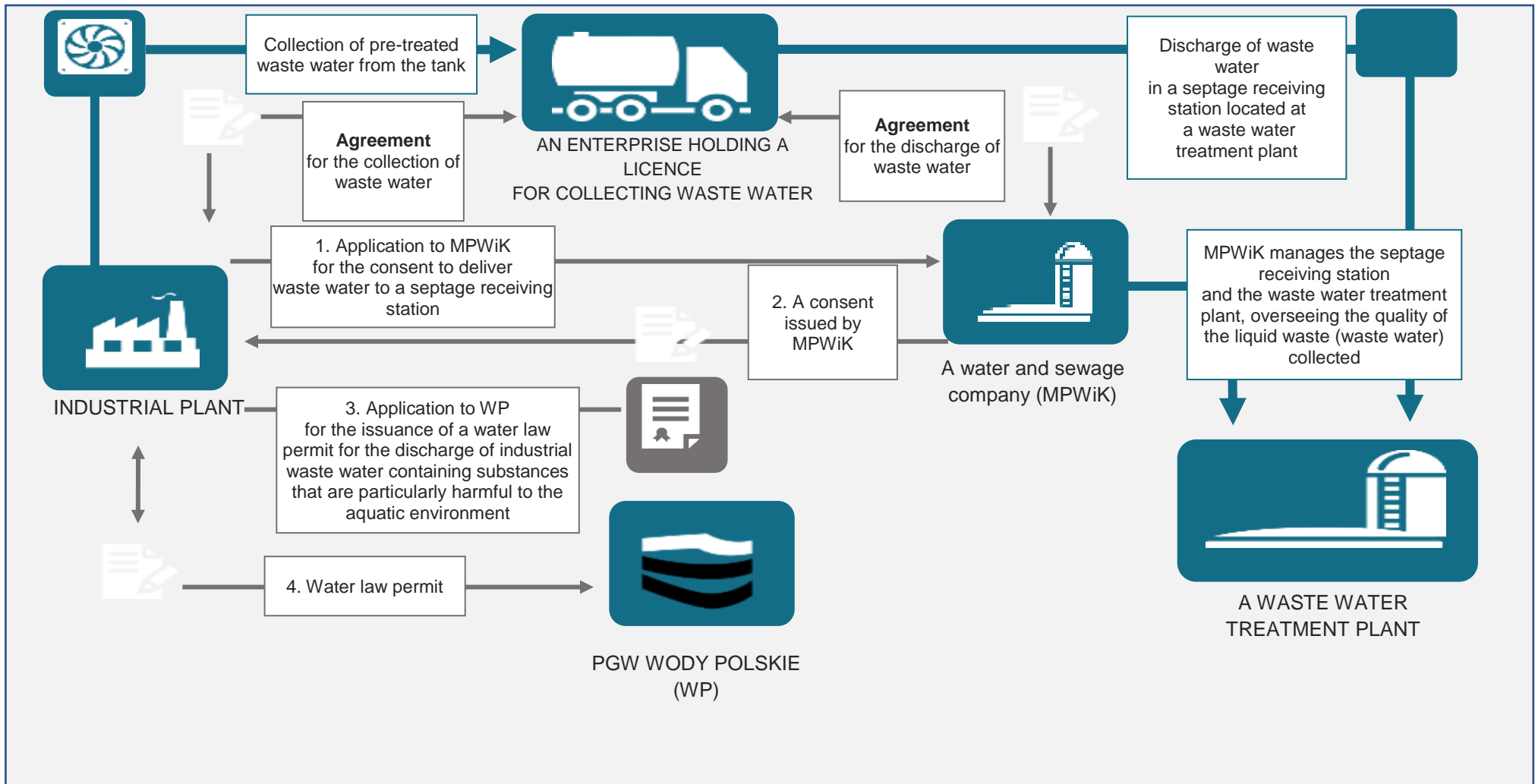


Figure 3. Outline of formal and legal relationships related to the management of waste water containing substances that are particularly harmful to the aquatic environment as part of liquid waste discharge in MPWiK's septage receiving stations. Author: M. Maśliński.

4. The conditions related to the quality of waste water discharged to sewage facilities owned by MPWiK

In addition to the foregoing deliberations, it should be noted that each waste water supplier should follow the general principles related to discharging waste water to sewage networks owned by water supply and waste water companies. The basic standards in this area are set out in Article 9 of uzzw. Pursuant to this provision, it is forbidden to discharge domestic waste water and industrial waste water to sewage facilities intended for the conveyance of rain and thaw water from rainfall or snowfall, and to discharge such rain and thaw water or drainage water to sanitary sewage systems.

Furthermore, it is forbidden to discharge to sewage facilities:

- 1) solid waste which might result in the reduced capacity of sewage conduits, including in particular gravel, sand, ash, glass, marc, yeast, bristles, leather or textile offcuts, filaments, even if fragmented;
- 2) liquid waste immiscible in water, including, but not limited to synthetic resin, varnish, bituminous mass, tar and tar emulsion, and cement mixtures;
- 3) flammable and explosive substances with a flash point below 85°C, in particular petrol, kerosene, heating oil, carbide, trinitrotoluene;
- 4) corrosive and toxic substances, in particular strong acids and alkalis, formalin, sulphides, cyanides, as well as ammonia, hydrogen sulphide, and hydrogen cyanide solutions;
- 5) waste and waste water from animal breeding, including liquid manure, slurry, manure and silage waste water;
- 6) waste water containing pathogenic microbes from
 - a) premises where patients are treated for communicable diseases;
 - b) blood donor centres;
 - c) veterinary care centres where animals are hospitalised due to communicable diseases;
 - d) laboratories where tests are performed on contagious material originating from animals.

What is important, any water and sewage management company is required to regularly audit the quantity and quality of domestic and industrial waste water, and to ensure compliance with procedures for discharging waste water into sewage systems.

It should be noted that the legislator imposes special requirements on waste water suppliers. Pursuant to Article 10 of uzzw, **industrial waste water suppliers discharging waste water to sewage facilities are obliged to:**

- 1) promptly inform the owner of sewage facilities of any breakdown resulting in the discharge of hazardous substances to sewage facilities in order to take appropriate measures aimed at reducing the outcomes of the breakdown;
- 2) install necessary facilities for the pre-treatment of industrial waste water and the proper operation of these devices;
- 3) allow the owner of sewage facilities to access at any time the location where the quantity and quality of industrial waste water is inspected, and perform inspections of waste water pre-treatment networks and facilities owned by the service recipient;
- 4) perform internal inspections of compliance with the permissible quantities and flow intensity of industrial waste, and pollution indicators, in particular if the industrial waste water constitutes over 10% of total municipal waste reaching a waste water treatment plant, and if the contaminants in industrial waste water may pose a threat for the safety or health of persons operating sewage facilities, for the safety of building structures and the service equipment of sewage facilities or of the waste water treatment process;
- 5) provide access to the results of internal inspection to the owner of sewage facilities and provide information on the pre-treatment facilities on site, as well as the type and sources of hazardous substances discharged to sewage;
- 6) Install measurement devices to determine the quantity and quality of industrial waste water, on demand from the owner of sewage facilities, if such demand can be substantiated by the possibility of threat for the safety or health of persons operating sewage facilities or the safety of building structures and the service equipment of sewage facilities or the waste water treatment process.

The obligations of the entities generating industrial waste are defined in Article 10 of uzzw and laid down in greater detail in the Regulation of the Minister of Construction of 14 July 2006 on the methods of performing the duties of entities generating industrial waste water and the conditions of discharging the waste water to sewage facilities (consolidated text, Journal of Laws of 2016, item 1757, as amended). Under the Regulation, industrial waste water suppliers are obliged to, i.a., install necessary industrial waste water pre-treatment facilities. What is important, this obligation should be fulfilled by applying state-of-the-art methods, taking into account the need to reduce environmental impact.

According to § 8 of Roz.odśp, industrial waste water may be discharged to sewage facilities if

- 1) it does not pose any threat to the safety and health of persons operating sewage facilities, the condition of the building structures and the proper operation of the facilities and waste water treatment plants, or to meeting the conditions laid down in the water law permit granted to a water and sewage management company for the discharge of waste water into water or ground and the application of sludge;

- 2) the industrial waste water supplier meets the conditions laid down in the water law permit, where such permit is required under the Water Law;
- 3) the temperature of the waste water does not exceed 35°C and the pH falls within the range of 6.5 to 9.5, excluding waste water containing cyanides and sulphides, for which the pH falls within the range of 8 to 10;
- 4) the waste water is prone to mechanical and biological treatment processes.

It seems that in the event of failing to meet one of the conditions mentioned above, water and sewage management companies are entitled to refuse to issue technical specifications or a consent to discharge substances that are particularly harmful to the aquatic environment to the sewage system.

Moreover, it should be noted that the provisions of Roz.odśp also define the permissible values of contamination indicators for certain substances that are particularly harmful to the aquatic environment discharged to sewage facilities, and the remaining values of the other indicators of contamination in industrial waste water discharged to sewage facilities.

The aforementioned legal provisions are supplemented by local legal acts in the form of the terms and conditions of water supply and waste water conveyance. For example, under § 10 of Reg.dwoś as regards waste water conveyance, service recipients are obliged to provide information about the type and sources of substances polluting waste water, and in the event of conveying industrial waste water, information about the technical processes and changes to the technologies affecting the quantity and quality of the waste water discharged.

4.1. Permissible values of pollution indicators for industrial waste water

In line with the currently applicable standards, the permissible values of pollution indicators for industrial waste water discharged to sewage facilities owned by MPWiK are listed in Table No. 3.

Indicator	Unit	Permissible value
Temperature	°C	Maximum 35
pH	pH	6.5 - 9.5
Five-day biochemical oxygen demand (BOD5)	mgO ₂ /l	Maximum 700
Chemical oxygen demand - COD	mgO ₂ /l	Maximum 1000
Total nitrogen	mgN/l	Maximum 220
Ammoniacal nitrogen	mgN/l	Maximum 200
Total phosphorus	mgP/l	Maximum 15
Total suspended solids	mg/l	Maximum 500

Petroleum ether extractables	mg/l	Maximum 100
Non-ionic surfactants	mg/l	Maximum 20
Anionic surfactants	mg/l	Maximum 15
Chlorides	mg/l	Maximum 1000
Sulphides	mg/l	Maximum 500
Lead	mgP/l	Maximum 1.0
Copper	mgCu/l	Maximum 1.0
Zinc	mgZn/l	Maximum 5.0
Cadmium	mgCd/l	Maximum 0.4
Total chromium	mgCr/l	Maximum 1.0
Chromium ⁺⁶	mgCr/l	Maximum 0.2
Nickel	mgNi/l	Maximum 1.0
Iron	mgFe/l	Maximum 10
Free cyanides	mg/l	Maximum 0.5
Complex cyanides	mg/l	Maximum 5.0
Mercury	mgHg/l	Maximum 0.1
Petroleum hydrocarbons	mg/l	Maximum 15

Table No. 4. The permissible values of pollution indicators for industrial waste water discharged to municipal sewage facilities owned by MPWiK

In 2016, MPWiK provided the possibility to accept industrial waste water transported by vacuum trucks to the septage receiving station located at the “Południe” waste water treatment plant, while the permissible quality parameters in the case of industrial waste water transported by vacuum trucks are analogous to those applicable to entities discharging industrial waste water to the sewage network operated by the Company (See: Table No. 3).

5. Industrial waste water quality control

A significant aspect of practices related to the discharge of industrial waste water into the sewer system of any water and sewage management company is the quality control of the discharged waste water. Indeed, it is important to bear in mind that an effective control system is necessary to ensure that the municipal sewer system does not receive any substances that could pose a risk to human safety or health, or the normal operation of any waste water treatment plant.

In addition, it is crucial to note that industrial waste water quality control in principle takes place on two fronts. Firstly, it is performed directly by the municipal water and sewage management company (MPWiK) as the organisation responsible for providing waste water (liquid waste) collection services to industrial waste water suppliers. And secondly, the quality of waste water is controlled by the

relevant authorities. Those include Environmental Protection Inspectorate (IOŚ) bodies, and Wody Polskie. In addition, under special circumstances, control measures may also be taken by other organisations or institutions. In particular, this applies to situations when a system causes environmental nuisance.

5.1. Internal audits by MPWiK

5.1.1. Basic powers of MPWiK

Any water and sewage management company is required to regularly audit the quantity and quality of municipal and industrial waste water, and to ensure compliance with procedures for discharging waste water into sewer systems. Given the above, under Article 7(4) of uzzw, representatives of water and sewage management companies are authorised to enter the properties or buildings owned by entities whose real property has been connected to the system, to inspect the quantity and quality of the waste water discharged into the system. **Importantly, prior to such entry onto the real property the representatives are required to show their work ID cards and a written authorisation.**

Under Article 10 of uzzw, industrial waste water supplier is required to provide MPWiK at all times with access to the locations where the industrial waste water discharged into the system is controlled for its quantity and quality, and to inspect the systems and equipment for the pre-treatment of the waste water owned by the service recipient. Moreover, industrial facilities are required to provide MPWiK with access to the results of internal audits, and any information about their waste water pre-treatment systems, and about the types and sources of any hazardous substances that may be discharged into the waste water.

Detailed guidelines for such audits and inspections are provided in Regulation of 14 July 2006 by the Minister of Construction on compliance procedures for industrial waste water suppliers and procedures for discharging waste water into sewer systems. Under those guidelines, to inspect industrial waste water discharged into sewer systems, water and sewage management companies specify the locations and frequency of, and procedures for, taking test samples. And under § 11(2) of Roz.odś, prior to taking any test samples, the industrial waste water supplier is to be notified of the intention to conduct the audit, and an authorised representative of the industrial waste water supplier needs to be present during sample collection. The above-mentioned rights have also been confirmed in §9(6) of Reg.dwoś;

As regards liquid waste, it is important to note that the location and frequency of, and procedures for, taking test samples should be defined in an agreement between MPWiK and the Liquid Waste supplier. While under § 7(2) of Rozw.wwnc, in such cases, too, test samples for the purposes of determining the status and composition of any discharged liquid waste need to be taken in the Liquid Waste Supplier's, or their authorised representative's, presence and at the sample-taking location defined in the agreement.

5.1.2. Possible sanctions

Sanctions for failure to comply with the procedures for discharging waste water into sewer systems can include both limited service (on the part of the authorities) and fines.

Under Article 8 of uzzw, a water and sewer service may close a sewer service lateral line if

- 1) the lateral line was constructed in violation of the law,
- 2) the service recipient failed to make any payments due for two full billing periods following the date they have received an advice requesting them to make any outstanding payments,
- 3) the quality of the discharged waste water fails to meet the legal requirements or the recipient was found to have intentionally damaged or by-passed a metering device,
- 4) the recipient was found to have illegally, i.e. without an agreement, discharged waste water, or to have intentionally damaged or by-passed any metering devices.

Furthermore, under Regulation of 27 February 2018 by the Minister of Maritime Economy and Inland Navigation on defining tariffs, template requests for tariff approval, and requirements for public water supply settlement and public waste water discharge (Journal of Laws of 2018, item 472), a tariff may define specific increased fees that can be imposed in the event of non-compliance with the requirements for the discharge of industrial waste water into sewer systems. The amounts of such fees are overseen by regulatory bodies in charge of tariff approval.

Moreover, instead of increased fees, some water and sewage management companies impose contractual penalties or flat-rate compensation for discharging waste water below the effective standards⁸². These serve as alternatives to any increased fees that could be defined in the tariff. In other words, contractual penalties are used only when the tariff does not specify increased prices or fees for failure to meet the standards for the discharge of industrial waste water into sewer systems.

Template waste water collection agreements, as provided by MPWiK, show that there are provisions defining scenarios when the company may impose contractual penalties. The specific amounts of contractual penalties are defined in the appendices to such agreements and depend on how severe the transgression was⁸³.

Contractual penalties are also imposed on companies delivering liquid waste to septage receiving stations. But in this case such damages are generally accepted as reasonable, since such business

⁸²But such practices have been questioned by some service recipients. See judgement of the Supreme Court (SN) of 21 February 2013, Case No. IV CNP 36/12.

⁸³ While the above-mentioned solution seems reasonable from the point of view of ensuring compliance with waste water discharge norms by waste water suppliers, in practice the legality of the liquidated damages to be imposed on service recipients is questionable as public waste water conveyance tariffs need to be approved. And contractual penalties are not subject to approval by regulatory bodies, hence there is a risk that some service recipients will question their legitimacy.

is not covered by uzzw regulations. As a result, MPWiK has more freedom in defining the prices for its services, as well as fines for exceeding pollution limits.

5.2. External control by public administration bodies

In addition to, and independently of, the supervision of waste water quality by MPWiK, industrial waste water management is also overseen by public administration bodies. This area falls within the authority of Environmental Protection Inspectorate bodies in charge of environmental control. Under Article 10b(2) of uioś, the Chief Environmental Protection Inspector, Provincial Environmental Protection Inspector, or authorised Environmental Protection Inspectorate officers may take action to impose fines under a penalty procedure for offences provided for in the regulations on offence procedures.

However, in practice, audits by Provincial Environmental Protection Inspectors (WIOŚ) are usually the basis for issuing post-audit orders to heads of the relevant organisational unit or natural person. Moreover, WIOŚ may issue post-audit recommendations.

What is noteworthy here is that the sanctions imposed by Environmental Protection Inspectorate bodies may differ depending on the severity of the transgression. For instance, under Article 364 of the Environmental Protection Law (POŚ), if a business ran by an organisation using the environment, or a natural person, causes the environment to seriously deteriorate or puts human life or health at risk, the Provincial Environmental Protection Inspector shall issue a decision to suspend such business operations to the extent necessary to stop any further deterioration of the environment. But it is important to note that this applies to emergency situations only.

5.2.1. Increased fees

The Water Law also provides a basis for the financial responsibility of businesses using the environment. But its provisions relate primarily to discharging industrial waste water directly to the environment. These regulations rely on such systems as increased fees, which in principle do not apply to businesses discharging industrial waste water into the sewer systems owned by other entities. But they are relevant for the plants that discharge their industrial waste water directly to the environment. Consequently, the awareness of such sanctions can encourage such businesses to have their operations covered by the municipal (communal) system.

Offences punished by increased fees

The Water Law (PW) defines situations in which businesses using water services, including industrial plants, may face fees for any illegal use of water resources. These situations are listed under Article 280 of the new Water Law. In principle, increased fees may be imposed under two types of circumstances: either lack of a water law (or integrated) permit or failure to comply with its requirements. In other words, in the first scenario, increased fees apply to those who use water services involving:

- a) the abstraction of underground or surface water,
- b) the discharge of waste water into water or ground

- without the required water permit or integrated permit.

Secondly, a water and sewage management company also pay increased fees when it uses water services involving:

- a) the abstraction of underground or surface water,
- b) the discharge of waste water into water or ground.

- while failing to comply with the requirements imposed by the water law permit or integrated permit.

For the most part, provisions of Article 280 duplicate the regulations introduced by the Environmental Protection Law. However, there are some differences between POŚ and PW in terms of administrative sanctions. In the Water Law, increased fee applies to both using water services without the required water law permit (or integrated permit), and failure to comply with its requirements. On the other hand, under Article 298 of POŚ, failure to comply with the requirements imposed by the water permit (or integrated permit) is punishable by administrative fines.

A comparison of these two laws shows that in the Water Law legislators decided not to divide administrative financial sanctions for any violations of the rules for using water resources into increased fees and administrative fines⁸⁴. This is because regardless of the nature of the offence, the offender is punishable by a sanction in the form of increased fee.

Amount of an increased fee

Depending on the severity of the offence, legislators have provided for different amounts of increased fees. Under Article 280(1) of the Water Law, (the increased fee for) discharging waste water into water bodies or ground without the required water permit or integrated permit for discharging waste water into water bodies or ground shall be 500% of the variable fee for discharging waste water into water bodies or ground.

What is much more complicated is how the increased fee is calculated for non-compliance with the water permit for discharging waste water into water bodies or to ground. Under Article 283 of the new Water Law, the amount of such an increased fee “depends on the quantity, condition and composition of waste water, or minimum percentage reduction of the levels of pollutants in waste water during waste water treatment, and for industrial waste water, the permissible amount of contaminating substances and the accepted substance weight, including in particular the amount of substances that are particularly harmful to the water environment, in the discharged waste water,

⁸⁴Cf. M. Górski, *Odpowiedzialność administracyjnoprawna w ochronie środowiska* [Administrative and legal responsibility in environmental protection], Warsaw 2008.

per unit of weight of the raw material, material, or fuel used, or product manufactured, as referred to in the regulations issued under Article 99(1)(1) – in line with the requirements of the water law permit or integrated permit.”

Upper unit rates of increased fees for failure to meet waste water discharge requirements are defined in Article 291 of PW. Under its provisions, the maximum amounts are:

- 1) PLN 1,326⁸⁵ – per 1 kg of substance for exceeding:
 - a) the allowed quantity and composition of waste water, excluding settleable suspended solids,
 - b) minimum percentage reduction in waste water substance levels,
 - c) the allowed substance weight in the discharged waste water,
 - d) per unit of weight of the raw material, material, or fuel used, or product manufactured,
- 2) PLN 14.28 – per 1 dm³ of settleable suspended solids,
- 3) PLN 14.28 – per 1 m³ of waste water for exceeding the allowed temperature, pH, artificial radioactive substance level, or allowed waste water dilution limit preventing toxic effects of waste water on fish.

However, it is important to note that Article 291 of the new Water Law defines maximum rates. The final unit rates of increased fees, as referred to above, are defined in a separate resolution of the Council of Ministers issued on the basis of Article 292 of the new Water Law. Currently, these rates are defined in Regulation of the Council of Ministers of 27 December 2017 on defining increased fees for failure to comply with the requirements for discharging waste water into water bodies or ground (Journal of Laws of 2017, item 2501).

Moreover, this Regulation also specifies detailed guidelines for defining increased fees if the offence is related to more than one substance or more than one water permit, or integrated permit, requirement, or the number of non-complying test samples is greater than the accepted limit.

Authorities in charge of defining the amount of increased fee

It is important to note that the amount of underground or surface water drawn or the amount of waste water discharged into water bodies or to ground without the required water law permit or integrated permit will, in principle, be determined by the relevant organisational units of Wody Polskie on the basis of tests, measurements, or other supervision activities as part of their water management oversight. This is confirmed by regulations such as Article 240(4)(3)(b) of the new Water Law, which stipulates that catchment area authorities are to perform the tasks of Wody Polskie related to the

⁸⁵Amounts as per Section 1(b) Notice of the Minister of Maritime Economy and Inland Navigation of 12 October 2018 (M.P.2018.1015).

management of affairs concerning increased fees, as referred to under Article 280(1) of the new Water Law. Importantly, the amounts of increased fees are to be defined by Wody Polskie bodies and communicated to the organisations responsible for paying such increased fees.

Powers of Environmental Protection Inspectorate bodies

Increased fees have been defined separately for failure to meet the requirements specified in a water law permit or an integrated permit. In such cases, increased fees for

- a) drawing underground or surface water,
- b) discharging waste water into water bodies or to ground

– while failing to comply with the requirements imposed by the water law permit or integrated permit, are to be defined and charged by the relevant Environmental Protection Inspectorate body on the basis of its decision. And under Article 17(2)(2) of the new Water Law, the relevant body for such scenarios is the local Provincial Environmental Protection Inspector.

Therefore, the relevant Environmental Protection Inspectorate body determines whether the requirements defined in the water permit or integrated permit, as related to the discharge of waste water into water bodies or to ground, have been complied with, based on:

- 1) measurements made by the organisation required to pay for water services,
- 2) other evidence necessary to determine how serious the non-compliance was.

Similarly as with POŚ, the relevant Environmental Protection Inspectorate body can reject any of the provided results of the required waste water quantity, condition and composition, or other, measurements, if it finds such measurements questionable. Article 288 of the new Water Law defines specific circumstances under which the results of the measurements carried out by the organisation required to pay for water services can be considered questionable. For example, under Article 288(5) of the new Water Law, measurement results can be considered questionable if measurements were made on the basis of methodologies other than the reference analysis methodologies described in secondary legislation to Article 99(1)(2) of the new Water Law, and if the recipient of water services fails to demonstrate that their results are equivalent to those produced by the reference analysis methodology.

Even though the competent authority is WIOŚ, the increased fee referred to under Article 280(2)(a) and (b) is to be paid to the relevant bank account of Wody Polskie. The deadline for making the payment is 14 days from the date on which the decision on the increased fee becomes final. It is important to note that the increased fee procedure, as referred to under Article 280(2)(a) and (b) of the new Water Law, is not instituted if the expected amount of the fee is lower than PLN 100.

5.2.2. Other sanctions

For a more complete picture, let us also describe the sanctions imposed by Article 476 of the Water Law. Those regulations stipulate that anyone who uses water or develops water facilities or performs any other activities that require a water law permit, while having no such water permit or while failing to comply with the requirements defined in the water permit, is subject to imprisonment, non-custodial sentence or fine.

In addition, sanctions are also imposed for discharging waste water into water bodies or to ground in violation of the provisions of Article 77(1) of the Water Law, and for diluting waste water to make its condition, composition, or minimum % of reduction in pollutants comply with any secondary legislation to Article 99(1)(2) of the Water Law.

5.3. Summary

This outline of the regulations concerning the supervision of entities discharging industrial waste water into the sewer systems of water and sewage management companies shows that the key role in this respect is played by MPWiK. Indeed, supervision powers of Environmental Protection Inspectorate bodies and Wody Polskie are generally related to any direct impact on, or risk to, the environment. As a result, it is the entity receiving industrial waste water that has the primary responsibility for supervising industrial waste water suppliers. Other public administration bodies seem competent to supervise the operations of the organisations that handle or process industrial waste water outside the municipal system.

Part 2.

Evaluation of the industrial waste water conveyance and treatment system operated by MPWiK

Part 2.

Evaluation of the industrial waste water conveyance and treatment system operated by MPWiK in Warsaw

1. An overview of MPWiK operations

Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji w m.st. Warszawie S.A., or MPWiK, Warsaw's municipal water and sewage management company, is the largest water and sewage management company in Poland. In 2018, each day MPWiK received and treated more than 526,000 cubic metres of waste water. With a total of some 4,200 km of water lines and 4,100 km of sewage lines, MPWiK operates the longest network in the country. The service supports more than 2,5 million people, including those living in the capital city itself, and in its satellite towns. According to some estimates, on business days this number can reach as many as 4 million people.

The recipients of water and sewage management services, meaning entities to which MPWiK provides water supply and/or waste water discharge services on a contractual basis, include both institutions, such as housing cooperatives and commonhold associations, universities, associations, healthcare providers and companies; and individuals.

It is important to note at this point that, by virtue of the law, MPWiK has been transformed into a sole-shareholder joint stock company, with the City of Warsaw as its only shareholder. MPWiK is registered with the National Court Register (KRS) maintained by the District Court in Warsaw, 12th Commercial Division of the National Court Register, under KRS 0000146138. The Company has its registered office in Warsaw at Plac Starynkiewicza 5. As at 1 September 2019, its share capital was PLN 2,734,575,100.00 (two billion seven hundred and thirty four million five hundred and seventy five thousand and a hundred zloty) and was paid in full.

MPWiK is a public utility company. The Company provides municipal services in the City of Warsaw and some communes within the Mazowieckie Province, related to public water supply and public waste water conveyance and treatment.

1.1. Area where MPWiK provides its waste water collection services

Currently, the area serviced by MPWiK is defined by the Agreement between Communes of 2005⁸⁶. Under that Agreement, the City of Warsaw provides public water supply and public waste water conveyance services within the Michałowice, Nieporęt, Raszyn, Serock, and Wieliszew Communes, and within the towns of Piastów and Pruszków. Moreover, based on other agreements, MPWiK also conveys waste water from other communes. Waste water coming from the area serviced by the Company is treated in four plants, namely "Czajka", "Dębe", "Południe" and "Pruszków". For a

⁸⁶ Official Journal of the Mazowieckie Province of 2005 No. 183, item 5899.

detailed list of the cities and towns which have their waste removed to the treatment facilities operated by MPWiK, please see Table No. 5.

No.	Agglomeration	Resolution of the Mazowieckie Province Regional Council	Treatment Facility	Agglomeration PE	Cities/towns within the agglomeration
1.	Warsaw Agglomeration	Resolution No. 169/12 of 12 July 2012	"Południe" and "Czajka",	2,491,811	1) Warsaw; 2) from the Izabelin Commune: Mościska; 3) from the Legionowo Commune: Legionowo; 4) from the Marki Commune: Marki; 5) from the Jabłonna Commune: Jabłonna, Chotomów, Dąbrowa Chotomowska; 6) from the Żąbki Commune: Żąbki; 7) from the Zielonka Commune: Zielonka; 8) from the Nieporęt Commune: Stanisławów Drugi, part of Józefów, Wola Aleksandra, part of Michałów-Grabina; 9) from the Stare Babice Commune: part of Blizne Łaszczyńskiego, part of Blizne Jasińskiego.
2.	Pruszków Agglomeration	Resolution No. 65/17 of 25 April 2017	"Pruszków"	191,678	1) from the Ożarów Mazowiecki Commune: Ożarów Mazowiecki, Duchnice, Konotopa, part of Ołtarzew 2) from the Michałowice Commune: Michałowice, Michałowice-Wieś, Komorów, Sokołów, Suchy Las, Reguły, Nowa Wieś, Granica, Helenów, Pęcice, Pęcice Małe, Opacz Mała, Opacz Kolonia 2) Town of Pruszków 3) Town of Piastów 4) Warsaw's Ursus District.
3.	Serock Agglomeration	Resolution No. 148/14 of 28 April 2014	"Dębe"	18,324	1) from the Serock Commune: Wierzbica, Serock, Borowa Góra, Stasi Las, Dosin, Jadwisin, Zegrze, Skubianka, Jachranka, Izbica, Dębe, 2) from the Nieporęt Commune: Zegrze Południowe, Nieporęt, Białobrzegi, Rynia, 3) from the Wieliszew Commune: Wieliszew, Łajski, Michałów-Reginów, Komornica.
Total PE for treatment plants operated by MPWiK				2,701,813	

Table No. 5. List of the cities and towns which have their waste removed to the treatment facilities operated by MPWiK.

Currently, the largest area is serviced by the "Czajka" Waste Water Treatment Plant. For the approximate locations of these major Waste Water Treatment Plants, please see Figure No. 4.



Table No. 6. Waste water collection areas for the Czajka, Pruszków and Południe Plants. Source: MPWiK 2017 Annual Report

1.2. A quantitative analysis of the waste water collected and treated by MPWiK

As shown by MPWiK management board’s reports and the Company’s annual reports, in 2014-2018 the greatest amount of waste water was collected in 2017, with a total of 203,821,000 m³ of waste, which is 23,756,000 m³ more than in 2016. As reported by MPWiK, this increase was the result of a greater number of rainwater and infiltration water, which reached waste water treatment facilities from Warsaw and its satellite Districts, including Wołomiński, Legionowski, Warszawski Zachodni

and Pruszkowski Districts. For comparison, the amount of waste water collected in 2018 dropped to 192,051,000 m³.

Importantly, on average industrial waste water in Warsaw is estimated to account for 9% of all the waste water reaching the treatment plants operated by MPWiK. While this proportion is higher than that found in other cities, such as Kraków or Łódź (6%), or Poznań or Gdańsk (about 3%), it is not a serious burden for the system. This is due to the fact that the large capacity of the plants, and, consequently, a vast stream of domestic waste water, contribute to the process of 'diluting' industrial waste water, which, in turn, reduces the risk of it being a burden to treatment plants⁸⁷.

For detailed data on the amount of waste water treated in 2014-2018 broken down by individual plants, please refer to Chart No. 1.

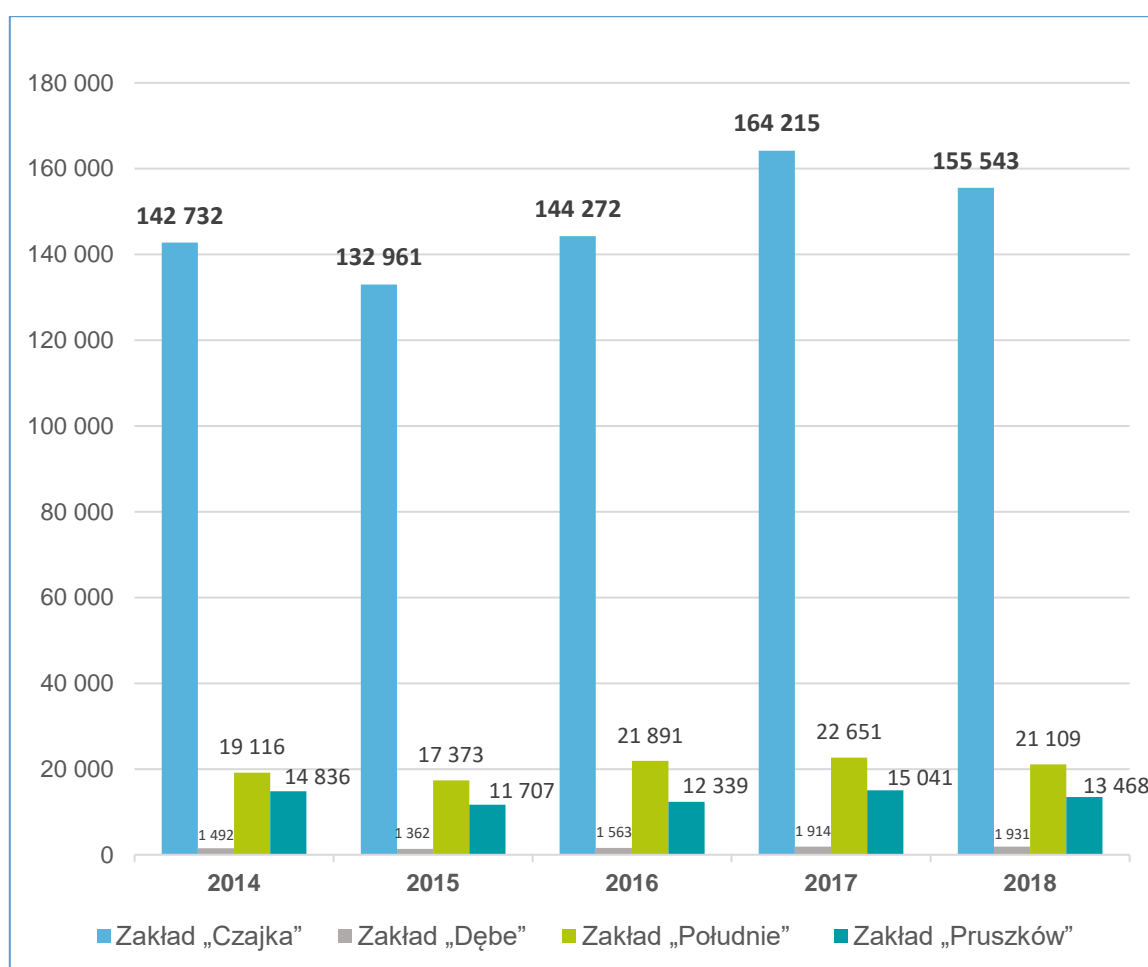


Chart No. 1. The amount of waste water treated in 2014-2018 in the waste water treatment plants operated by MPWiK. Data expressed in thousands of cubic metres. Source: MPWiK Management Board reports and MPWiK annual reports.

⁸⁷ P. Królak, a presentation entitled *Case: Warsaw Waterworks and Czajka WWTP* as delivered on 3 April 2019 in Riga during a BEST workshop entitled *Workshop on management of effluents from food and dairy production*, accessed online on 25 September 2019 <https://bestbalticproject.eu/wp-content/uploads/2019/04/10_Warsaw_Riga_ver_01_04.pdf>.

2. MPWiK operations related to the collection of industrial waste water

2.1. Who can have their industrial waste water treated at MPWiK's treatment plants?

What determines the possibility of having industrial waste water treated (at MPWiK's plants) is the size of the specific treatment plant, its current waste load, and waste water treatment and waste water sludge processing technologies. Each request for industrial waste water removal (for connecting the entity to the system or for accepting waste water delivered by vehicular transport) is assessed on an individual basis, giving consideration to the nature of the industrial waste water provider's business, the expected quantity and quality of its industrial waste water, and the methods used to pre-treat it to meet the requirements of the Regulation of the Minister of the Environment of 14 July 2006 on compliance procedures for industrial waste water suppliers and procedures for discharging waste water into sewer systems (see Journal of Laws of 2016, item 1757, as amended).

Every time a waste water treatment plants agrees to receive industrial waste water, the plant, as the end recipient of industrial waste water, confirms that it is able to receive the waste water in its declared amount and quality. Sewer Network Service further confirms that the network has the necessary capacity to receive the waste water at a specific point in the sewer network.

Considering the size and the technical standards of the treatment plants operated by MPWiK, "Czajka", as a large and advanced plant, is the one that has the greatest industrial waste water treatment capacity. It is also important to note that the waste water it receives comes from most of Warsaw's entities producing industrial waste water, as well as those from the satellite communes.

Waste Water Treatment Plant "Południe" receives industrial waste water produced in south-western districts of Warsaw. But given that this area is dominated by residential developments, and that industrial waste water producers are being gradually transferred or closed down (Służewiec Przemysłowy), the amount of industrial waste water delivered to the plant (including that transported to the septage receiving station) is very limited. What constitutes a serious burden on this plant are biogen loads, and especially nitrogen compounds, which prevents the plant from being able to receive additional waste loads, including those coming from industrial waste water producers.

Contrary to "Południe", "Pruszków", as a plant that treats waste water from the so called Prószków Strip (Pasma Pruszkowskie), receives waste water from several large industrial plants, and the loads discharged into this industrial waste water constitute a significant proportion in the waste water treated there.

"Dębe", on the other hand, has the smallest efficiency, both in terms of its capacity and obsolete technological standards. For these reasons, the septage receiving station in Jachranka, which ultimately delivers waste water to that plant, does not collect industrial waste water but only domestic waste water.

2.2. Characteristics of industrial waste water suppliers according to NACE Rev. 2

2.2.1. Description of the applied research methodology

Due to the international reach of the BEST project, the analysis of the suppliers of industrial waste water to the MPWiK sewage system was based on the shared statistical classification of economic activities in the European Community referred to as “NACE Rev. 2”. Detailed provisions on the aforementioned classification are included in Regulation (EC) No. 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No. 3037/90 as well as certain EC Regulations on specific statistical domains.

What is important, the application of the said classification increased the comparability of national, community and international classifications, and, consequently, national, community and international statistics. Thus, references to the mentioned classification will undoubtedly ensure data comparability between the partners of the BEST project.

In line with Article 2 of the NACE Regulation, NACE Rev. 2 includes:

- a) a first level consisting of headings identified by an alphabetical code (**sections**);
- b) a second level consisting of headings identified by a two-digit numerical code (**divisions**);
- c) a third level consisting of headings identified by a three-digit numerical code (**groups**); and
- d) a fourth level consisting of headings identified by a four-digit numerical code (**classes**).

Quite importantly, the PKD-2007 classification ensures compliance with the NACE Rev. 2 system up to the fourth level. Taking the above into consideration, in the qualitative analysis of entities producing waste water, their characteristics were established on the basis of PKD codes for their core business. For this purpose, on the basis of data included in KRS registers (in the case of commercial law companies) or CEIDG, the appropriate PKD codes were specified for the given entity's core business. If a specific entity did not have a core business, this fact was recorded in the database. Furthermore, if a given entity was not present in the CEIDG or KRS register, the core business was assigned to it, and for the purposes of detailed analyses it was classified in the “other” section, division or class.

It should be emphasised that the created database of industrial waste water suppliers was created on the basis of premises and not entities with which MPWiK signed agreements for waste water collection. This stems from the fact that a single entity can operate a number of premises from which industrial waste water is conveyed. This applies in particular to waste water suppliers from the premises of chain businesses (e.g. petrol stations, restaurants, car showrooms, municipal companies).

The database created in such a way makes it possible to identify the most frequent types of activity for premises from which industrial waste water is transferred to the MPWiK sewage network. It was agreed that from the perspective of data clarity, detailed data references to level 1 (sections), level 2 (divisions) and level 4 (classes) provide the most valuable information.

In addition, in order to enable a simple comparison of the PKD-2007 and NACE Rev. 2 classifications, this Report is appended with a list of types of activity carried out by entities discharging industrial waste water to the MPWiK sewage system, classified according to the number of premises served, and provided both in the PKD-2007 and the NACE Rev. 2 system.

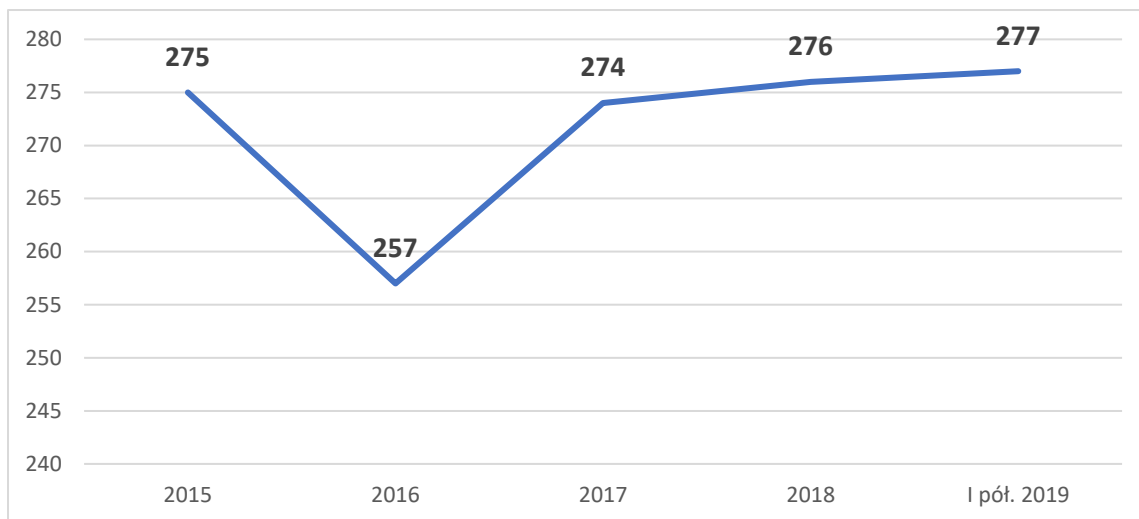
2.2.2. Quantitative and spatial characteristics

As at 30 June 2019 MPWiK's records contained 277 facilities directly transferring industrial waste water to the Company's sewage system. As emphasised in the description of the applied research methodology, the number of entities discharging industrial waste water to the MPWiK sewage system is not equal to the number of facilities from which this type of waste water is discharged. This results from the fact that some businesses operate two or more facilities. For example, as at 30 June 2019 the company Tramwaje Warszawskie sp. z o.o. operated 5 facilities from which industrial waste water was conveyed. The collection sites are in this case located in various districts of the city⁸⁸. In turn, Miejskie Zakłady Autobusowe Sp. z o.o. operate 4 facilities, each for a different branch of the company⁸⁹.

It should be mentioned that in the years 2015-2019 the number of facilities discharging industrial waste water to the MPWiK sewage system was at a constant level. A noticeable change in the number of facilities under supervision was recorded in 2016, which was mainly due to the discontinuation of the supervision of specific facilities due to winding up their activities in a given location or discharging only domestic waste water to the sewage system. Detailed data are presented in Chart No. 2.

⁸⁸ R-4 "Żoliborz" Tram Operation Unit at 10 Zgrupowania AK "Kampinos" St.; R-3 "Mokotów" Tram Operation Unit at 27 Woronicza St.; T-3 Tram Repair Unit at 2A Młynarska St.; R-2 "Praga" Tram Operation Unit at 16 Kawęczyńska St.; T-1 Traction Power and Tracks Unit at 102 Prymasa Tysiąclecia Ave.

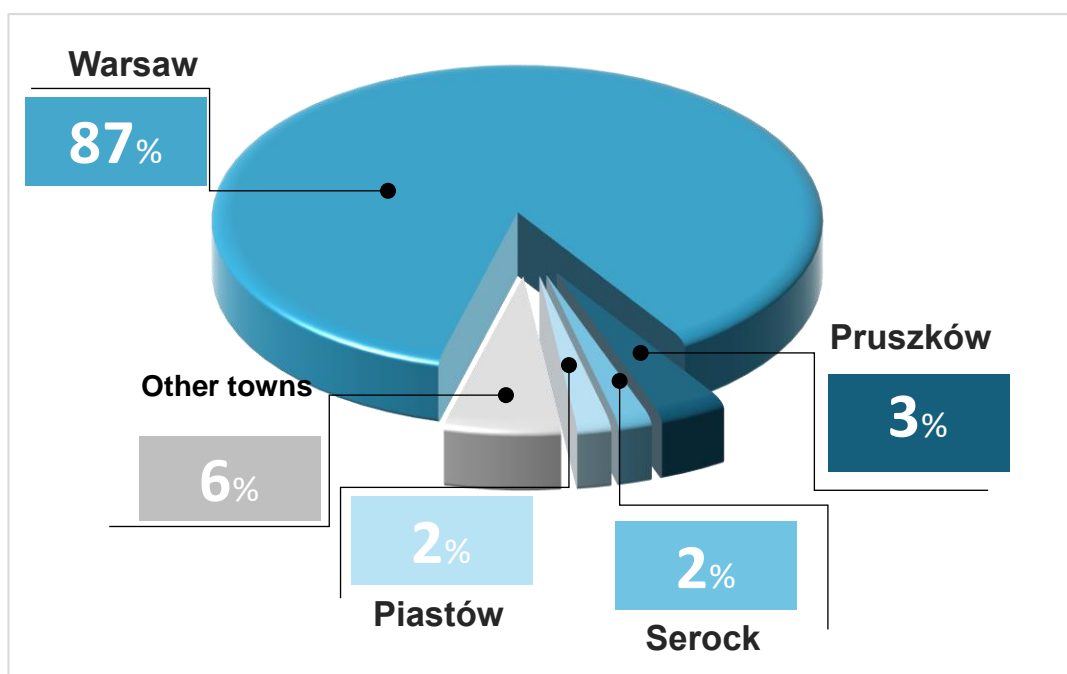
⁸⁹ R-4 "Stalowa" Transport Unit at 77 Stalowa St.; R-1 "Woronicza" Transport Unit at 29 Woronicza St.; R-2 "Kleszczowa" Transport Unit at 28 Kleszczowa St.; R-3 "Ostrobramska" Transport Unit at 38 Ostrobramska St.



[1st half of 2019]

Chart No. 2. The number of facilities covered by the ongoing supervision of water and waste water management which discharged industrial waste to the MPWiK sewage system in the years 2015-2019

As shown in the data on the location of the facilities from which industrial waste water is discharged to the MPWiK sewage system, a considerable majority of them is located in the area of Warsaw (240 facilities). A noticeable part of these facilities is also located in Pruszków (10) and Piastów and Serock (5 in each case). In other towns their number does not exceed 3⁹⁰.



⁹⁰ In the Nieporęt Commune there are 3 facilities, in Białobrzegi, Łajski near Legionowo, Mościsko and Zegrze Południowe there are 2 facilities in each town, and in Brwinów, Kanie, Michałowice, Nowa Wieś, Ożarów Mazowiecki and Ząbki only one facility in each case.

Chart No. 3. Facilities from which industrial waste water is discharged to the MPWiK sewage system by location

Thus, there is no doubt that the main stream of industrial waste water comes from Warsaw. It is noteworthy that Warsaw is divided into the left-bank and right-bank part of the city. 157 facilities are located on the left-bank of the city, which accounts for 65% of all facilities in Warsaw⁹¹, and 83 facilities are based in the right-bank part of the city⁹².

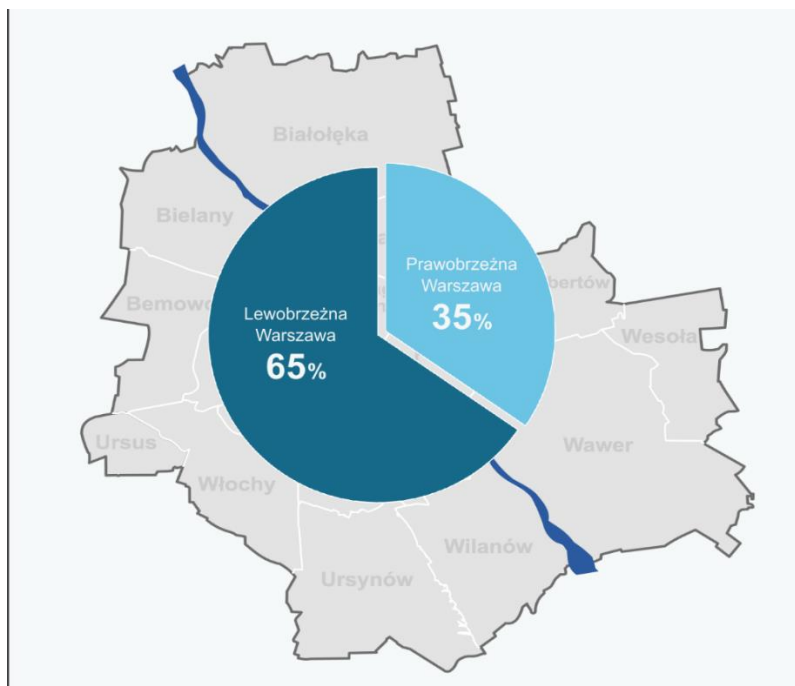


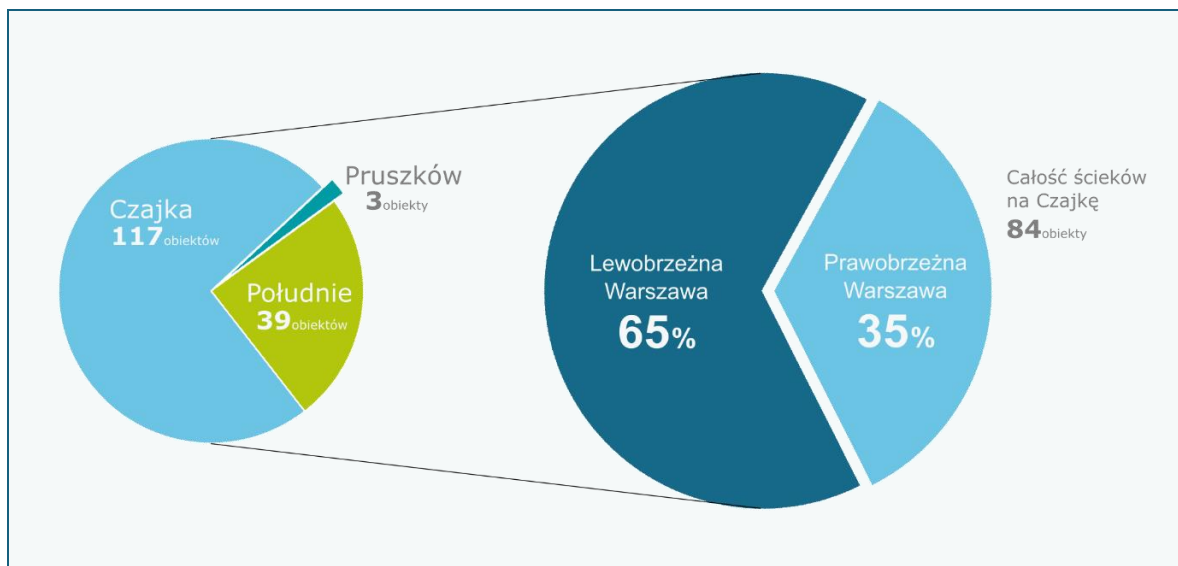
Chart No. 4. The percentage share of facilities from which industrial waste water is discharged to the MPWiK sewage system with the division into left-bank and right-bank Warsaw. As at 30 June 2019.

Prepared by M. Maśliński, as at 30 June 2019

Industrial waste water from the area of Warsaw which reach the sewage network are subsequently transported to three waste water treatment plants: the Czajka, Pruszków and Południe Plant. It is crucial to mention that in the case of facilities located in the right-bank Warsaw all industrial waste water reaches the Czajka plant. For the left-bank Warsaw, the industrial waste water stream reaches all three plants and constitutes a low percentage of the total amount of conveyed waste water (less than 2%).

⁹¹ MPWiK includes in this group for record purposes also two facilities in Mościsko, Izabelin Commune. After including those facilities, the catchment area of the left-bank Warsaw consists of 159 facilities.

⁹² MPWiK's records also cover one facility located in Ząbki. After its inclusion, the catchment area of the right-bank Warsaw consists of 84 facilities.



[facilities; left-bank Warsaw; right-bank Warsaw; all waste water sent to Czajka]

Chart No. 5. The share of the respective waste water treatment plants under the operation of MPWiK in the treatment of waste water from the area of Warsaw (data with the inclusion of the division into left-bank and right-bank Warsaw).

In statistical terms, the majority of facilities from which industrial waste water is transported to the MPWiK sewage network are located in the Białołęka, Włochy, Ursynów, Mokotów, Praga Południe and Śródmieście Districts. It should be also mentioned that structure of waste water suppliers in the respective districts is not uniform. For example, almost 100% of waste water suppliers from Śródmieście are entities whose core business is accommodation and food service activities (section I of NACE). Polska Wytwórnia Papierów Wartościowych S.A., located in the centre of Warsaw, is an exception, as its core business is described with code 18.12 "Other printing." In other districts the types of activity are much more varied and cover more facilities associated with trade and manufacturing. For instance, in the Białołęka District there are companies representing 6 types of activity classified under section C (manufacturing). These include the following:

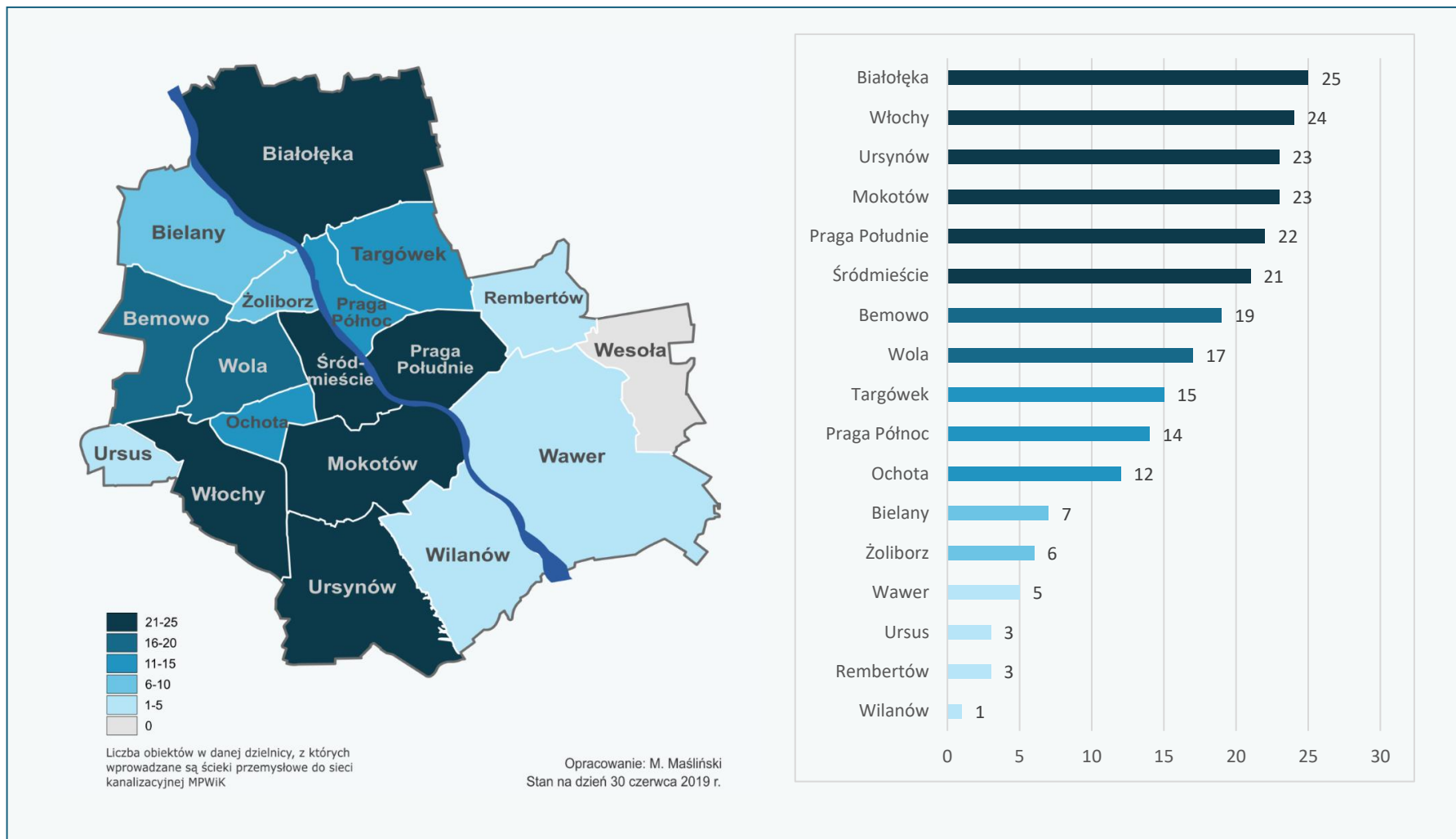
- **Spółdzielnia Piekarsko - Ciastkarska w Warszawie** (NACE 10.71 - Manufacture of bread; manufacture of fresh pastry goods and cakes);
- **Coca - Cola HBC Polska Sp. z o.o.** (NACE 11.07 - Manufacture of soft drinks; production of mineral waters and other bottled waters);
- **Smurfit Kappa Polska Sp. z o.o.** (NACE 17.21 - Manufacture of corrugated paper and paperboard and of containers of paper and paperboard);
- **Mylan Pharmaceuticals Sp. z o.o.** (NACE 20.59 - Manufacture of other chemical products n.e.c.);
- **Przedsiębiorstwo Innowacyjno-Wdrożeniowe "IPOCHEM" Sp. z o.o.** (NACE 21.10 - Manufacture of basic pharmaceutical products);

- **Mennica Polska S.A.** (NACE 32.11 - Striking of coins).

As far as districts with the lowest number of facilities connected to the MPWiK sewage network from which industrial waste water is conveyed, these are, i.a., Ursus, Wilanów, Rembertów and Wawer. Differences in the number of connected facilities in the respective districts may result not only from the conditions in a particular district but also from the development of the sewage network. For instance, at the outskirts of the Wawer district there are still areas which are not connected to the sewage network. As a result, industrial waste water management in these areas may constitute a major problem than in areas covered by the sewage network.

In line with the data provided by MPWiK, in the Wesoła District there is currently no facility from which industrial waste water is collected and transferred to the MPWiK sewage system.

Detailed information on the number of facilities in the particular districts of Warsaw is presented in Chart No. 6.



[number of facilities in a given district from which industrial waste water is discharged to the MPWiK sewage system]

Chart No. 6. The number of facilities in the respective districts of Warsaw from which industrial waste water is discharged to the MPWiK sewage system (with data presentation on a map and a chart)

Prepared by M. Maśliński, as at 30 June 2019

2.2.3. Qualitative characteristics

In the qualitative analysis based on data on the core business of the respective industrial waste water suppliers, the following was found:

- 15 sections out of 21 sections of NACE Rev. 2;
- 39 divisions out of 88 divisions of NACE Rev. 2;
- 70 classes out of 615 classes of NACE Rev. 2.

In light of the above it is possible to state that with the increasing level of detail of the respective list grades (sections being the most general level, and classes – the most detailed) the percentage of industrial waste water suppliers in the respective groupings decreases. For instance, in the area where MPWiK operates industrial waste water suppliers occur in as many as 71% of sections. However, they represent only 44% of divisions and only 11.4% classes. The above makes it difficult to determine how many entities discharge industrial waste water from a given area. Entities may belong to the same section or division, but the exact nature of their business may indicate that they do not produce industrial waste water containing substances particularly harmful to the aquatic environment.

However, on the basis of the PKD (NACE) data, an attempt was made to determine how many entities may potentially produce industrial waste water in the area of MPWiK operations. For this purpose, information on entities running business operations in the areas with a potential risk of producing harmful substances was collected from the REGON register available within the database maintained by GUS. However, due to the fact that this database contains only quantitative information on PKD (NACE) divisions (second level), it was used as a point of reference. It should be emphasised that for the purposes of this study all towns where MPWiK runs its operations were included.

The obtained result is much higher than the number of facilities which are currently covered by special supervision. As far as businesses selected on the basis of the 39 NACE divisions are concerned, it was found that the number of entities registered in the database exceeded 374,000 entries (sic!). Such a high number of registered entities in the context of a relatively low number of entities directly covered by the municipal supervision system may stem from a number of factors. These may include the varying legal classification of waste water produced by the respective companies. As demonstrated by the legal analysis presented in Part 1, waste water produced in companies may be legally managed in a different way than discharging it to the MPWiK sewage system (e.g. it may be managed as waste). There is also a possibility for a company to individually manage its industrial waste water in the company treatment plant or industrial waste water treatment plant of an entity other than MPWiK. As shown in the data provided by the Province Inspectorate of Environmental Protection in Warsaw as at 24 September 2019 in Warsaw there were 15 waste

water treatment plants, 4 of which were designated for industrial waste water treatment. These were treatment plants operated by:

- "Tesco Polska Sp. z o.o. w Warszawie" (the entity managing the treatment plant: „Przedsiębiorstwo Gospodarki Wodno-Ściekowej ""GEA-NOVA"" Sp. z o.o.");
- "PGNiG Termika S.A. Zakład Elektrociepłownia Żerań i Źródła Lokalne";
- H+H Polska Sp. z o.o.;
- "PGNiG Termika S.A. Zakład Elektrociepłowni Siekierki i Ciepłowni Kawęczyn".

Furthermore, some of industrial waste water may reach collective sewage systems, and then be discharged by their operators to the municipal sewage network (e.g. shopping malls and entities renting real properties for production purposes for a larger number of entities). Thus, formally in contracts there will only be information on the real property owner (administrator) and not the actual producer of waste water.

It is worth emphasising that some entities have an office in Warsaw for reputation-related or functional reasons (Warsaw being the major business centre in Poland), but the actual production and commercial operations may be run in the catchment area of a water and sewage management company other than MPWiK. This does not change the fact that formally, for REGON purposes, the entity indicates an activity which generates industrial waste water as its core business despite the fact that the waste water is produced outside of Warsaw.

Undoubtedly there is also a group of entities not aware of the fact that the waste water that they discharge to the sewage network contains substances particularly harmful to the aquatic environment. The above phenomenon may be in part a consequence of a sort of evolution of companies. For instance, there are examples of family food industry or production companies run initially in households, which after some time developed to a scale of small or medium-sized industrial plants. The change of the scale of operations and the presence of new content in the waste water is not always reported by the owner. As a result, there is a risk that industrial operations are run by an entity which has a standard agreement for domestic waste water collection. In practice, the inclusion of these entities, taking into consideration MPWiK's scale of operations, may be highly problematic.

Finally, not every industrial waste water supplier discharges to the sewage network waste water containing substances particularly harmful to the environment. A water law permit is only required for the above type of waste, as a result of which only this group of industrial waste water is covered by special supervision by MPWiK.

Due to the above, it should be stated that the currently available data do not make it possible to establish the number of facilities which in fact require special MPWiK supervision and the scale of

industrial waste water generation outside the municipal system. Thus, the subsequent analysis focusses on entities present in MPWiK's records or, possibly, in those kept by Wody Polskie.

Types of activity run by waste water suppliers by NACE section

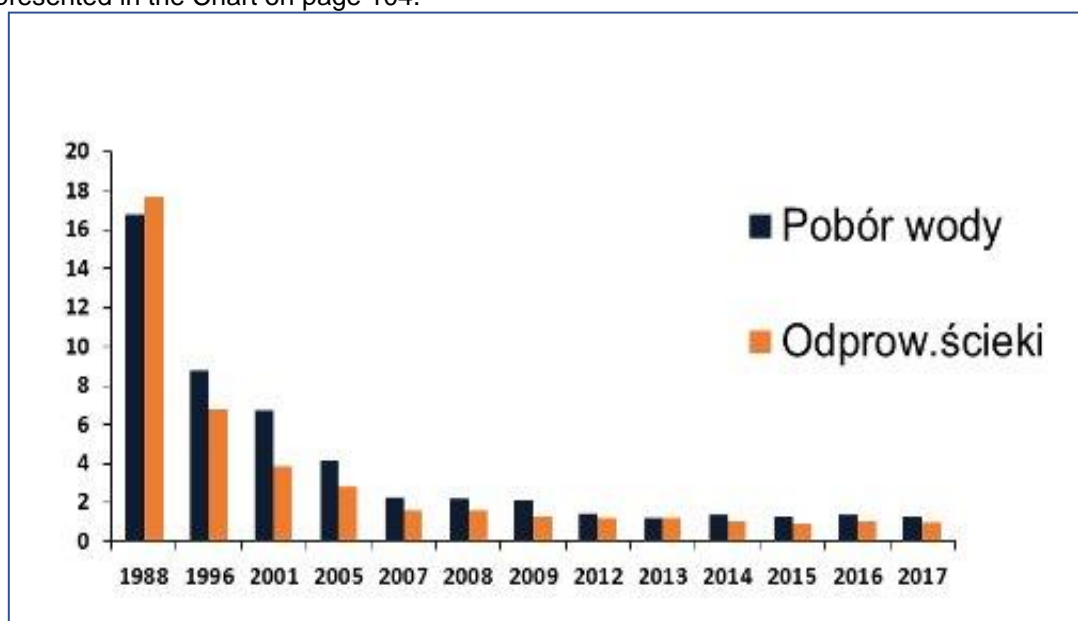
As shown in the introduction, waste water suppliers are found in 15 sections among the 21 sections of the NACE Rev. 2 (PKD 2007) classification. However, it is worth mentioning that considerably more entities represent section I (accommodation and food service activities), section C (manufacturing) and section G (wholesale and retail trade; repair of motor vehicles and motorcycles) in relation to the other sections.

In this context it should be emphasised that **the current structure of entities running industrial operations differs significantly from the 1970s or 1980s**. This stems from the fact that large industrial plants have been closed or limited their production. Furthermore, plants which are still in operation have been obligated to adjust to new legal standards related to environmental protection, resulting mainly from the need to adjust Polish law to EU law.

One of the examples is the upgrading of Huta Warszawa (currently ArcelorMittal Warszawa sp. z o.o.). According to the data provided in ArcelorMittal Warszawa's website, since 1992, when the plant's privatisation took place, it has been regularly upgraded in order to reduce costs and minimise environmental impact. Per unit of production, ArcelorMittal Warszawa's measures have had the following effects:

- limitation of particulate emissions by 97%
- limitation of gas emissions by 90.8%
- limitation of water consumption by 94.2%
- limitation of electric power consumption by 43.2%
- limitation of natural gas consumption by 91.6%

Detailed data on the consumption of utilities by Huta Warszawa between 1988 and 2017 are presented in the Chart on page 104.



[water consumption; waste water discharged]

Chart No. 7. Consumption of utilities by Huta Warszawa, currently ArcelorMittal Warszawa sp. z o.o. between 1998 and 2017 Source: <http://arcelormittal-warszawa.com/kim-jestesmy/ochrona-srodowiska>.

To recapitulate, currently in MPWiK's area of operation there is no plant that would run industrial production on such a large scale as before 1989.

In addition, currently the proportion of industrial facilities in the overall activity producing industrial waste water supplied directly to the MPWiK sewage system does not exceed 25%. Although the above data refer to the number of facilities and not to the percentage of waste water from these plants, this demonstrates that industrial facilities are in minority. At the same time, it is worth noticing that the dominating type of industrial activity is associated with **high technology** (e.g. Manufacture of chemicals and chemical products, NACE division 20, 6 facilities; Manufacture of computer, electronic and optical products, NACE division 26, 2 facilities; manufacture of air and spacecraft and related machinery, NACE class 30.30, 1 facility) or **medium-high technology** (Manufacture of basic pharmaceutical products and pharmaceutical preparations, NACE division 21, 9 facilities; manufacture of machinery and equipment n.e.c., NACE division 28, 3 facilities; manufacture of medical and dental instruments and supplies, NACE class 32.50, 2 facilities)⁹³.

The framework of this study, and the currently available data, do not make it possible to make a detailed reference to the quantity and quality of waste water produced by the respective industrial waste water suppliers. This results from the fact that even companies with a seemingly similar profile may apply very different technologies. For instance, the specialist food industry literature contains a separate specification of the quantity and quality of waste water for 8 types of business (sugar plant, dairy plant, oil and fat processing plant, slaughterhouse and meat processing plant, rendering plant, fish processing plant, brewery and distillery)⁹⁴.

However, based on the publication by dr inż. Łucja Fukas-Płonka and dr Izabela Płonka it is possible to identify types of substances typically discharged to the sewage network in relation to the specific types of activity:

- **domestic waste water:** suspended solids, BOD₅, COD, biogens (N, P);

⁹³ In line with the nomenclature used in statistics, high technology is understood as domains and products characterised by a high R&D intensity. Detailed information is available on the website of Statistics Poland. <<https://stat.gov.pl/metainformacje/slownik-pojec/pojecia-stosowane-w-statystyce-publicznej/773,pojecie.html>>.

⁹⁴ Detailed information on the origin, quantity and quality of waste water from various sectors of industry can be found in the publication by Bronisław Bartkiewicz and Katarzyna Umiejewska: B. Bartkiewicz, K. Umiejewska, *Oczyszczanie ścieków przemysłowych [Industrial waste water treatment]*, Wydawnictwo PWN, Warsaw 2010.

- **food service:** suspended solids, BOD₅, lipids, biogens (N, P);
- **organic waste:** BOD₅, lipids, biogens (N, P);
- **medical care:** bacteria, biogens (N, P), harmful substances;
- **industry:** metals, suspended solids, harmful substances, COD⁹⁵.

Detailed data on types of activity run by entities supplying waste water to the MPWiK sewage system by NACE section are presented in Chart No. 8.

⁹⁵ Fukas-Płonka Ł. I. Płonka, *Warunki przyjęcia ścieków przemysłowych do sieci kanalizacyjnej [Conditions for discharging industrial waste water to sewage networks]* [in:] *Nowe technologie w sieciach i instalacjach wodociągowych i kanalizacyjnych. Praca zbiorowa [New technologies in water supply and sewage networks and systems]*, K. Kuś, F. Piechurski, Politechnika Śląska 2016, p. 207-218.

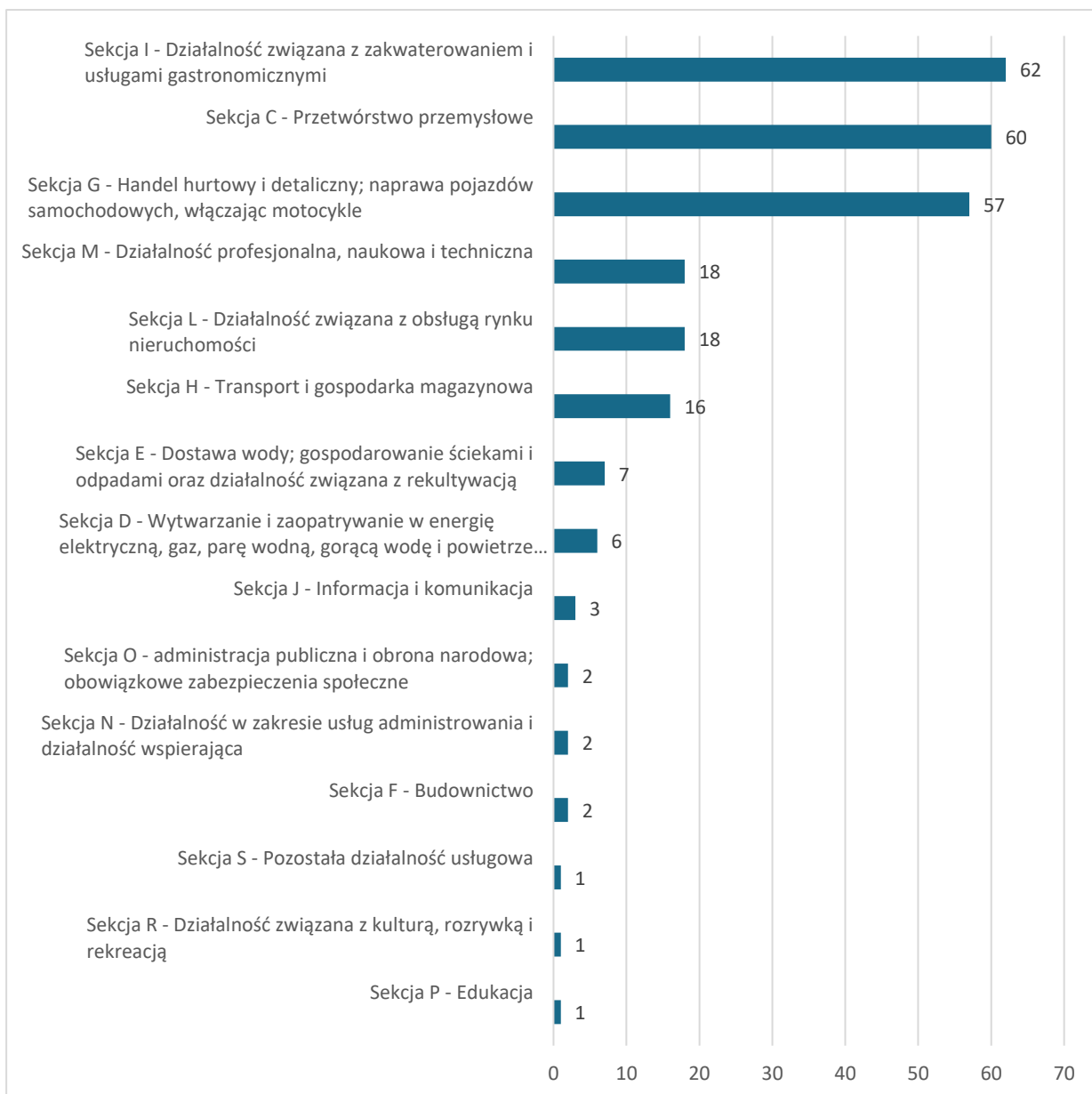


Chart No. 8. Types of activity run by entities supplying waste water to the MPWiK sewage system by NACE section

[Section I Accommodation and Food Service Activities

Section C Manufacturing

Section G Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles

Section M Professional, Scientific and Technical Activities

Section L Real Estate Activities

Section H Transportation and Storage

Section E Water Supply; Sewerage, Waste Management and Remediation Activities

Section D Electricity, Gas, Steam and Air Conditioning Supply

Section J Information and Communication

Section O Public Administration and Defence; Compulsory Social Security

Section N Administrative and Support Service Activities

Section F Construction

Section S Other Service Activities

Section R Arts, Entertainment and Recreation

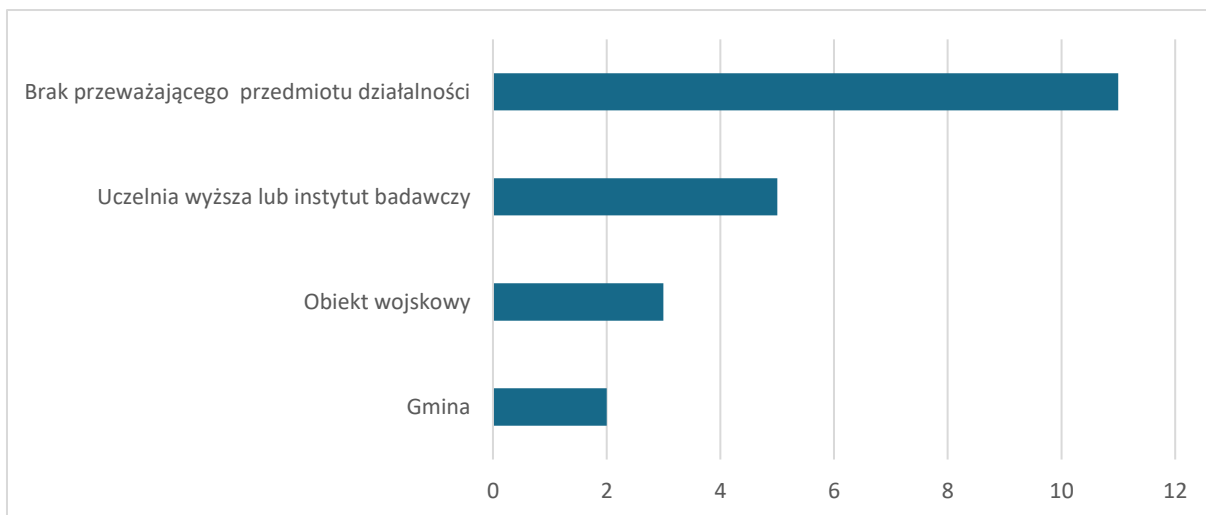
Section P Education]

As shown in the figure above, for as many as 7 sections industrial waste water conveyance is marginal in the context of the whole group of entities classified as industrial waste water suppliers. This refers in particular to activities related to education, arts, entertainment and recreation, construction, administrative and support service activities, public administration and defence, and information and communication

It should be noticed that some facilities were not included under any section, division and class in line with NACE Rev. 2 . This stems from the fact that some businesses have not identified their core business. In such situations the relevant register contains information on the company's other business, but they usually contain a few entries⁹⁶. In this case it is not always possible to identify the core business, so for the record these facilities were included under the category "no core business specified".

Furthermore, the classification also includes several higher education institutions and research institutes (e.g. the Warsaw University of Life Sciences, the Military University of Technology, the Institute of Physics, Polish Academy of Sciences). The group of other entities to which no NACE code was assigned consists of communes and military structures (military facilities and one representative building). It should be mentioned that excluding the aforementioned facilities from the overall data does not affect the representativeness of other data. Detailed information on the number of the aforementioned types of facilities which were not classified according to NACE codes is presented in Chart No. 8.

⁹⁶ As information on other business is given in a chronological order of the NACE codes and not according to the priority assigned by the entrepreneur, attempts to identify the core business were abandoned.



[no core business; higher education institution or research institute; military facility; commune]

Chart No. 9. Other types of activity run by entities supplying waste water to the MPWiK sewage system (not classified according to NACE codes).

To recapitulate, it should be mentioned that among the core business of industrial waste water suppliers there were accommodation and food service activities, manufacturing and wholesale and retail trade; repair of motor vehicles and motorcycles. In practice activities within these 3 sections represent almost 75% of industrial waste water suppliers in the area covered by MPWiK's services. A graphic presentation of the data on the most frequently occurring types of activities is presented in Chart No. 10.

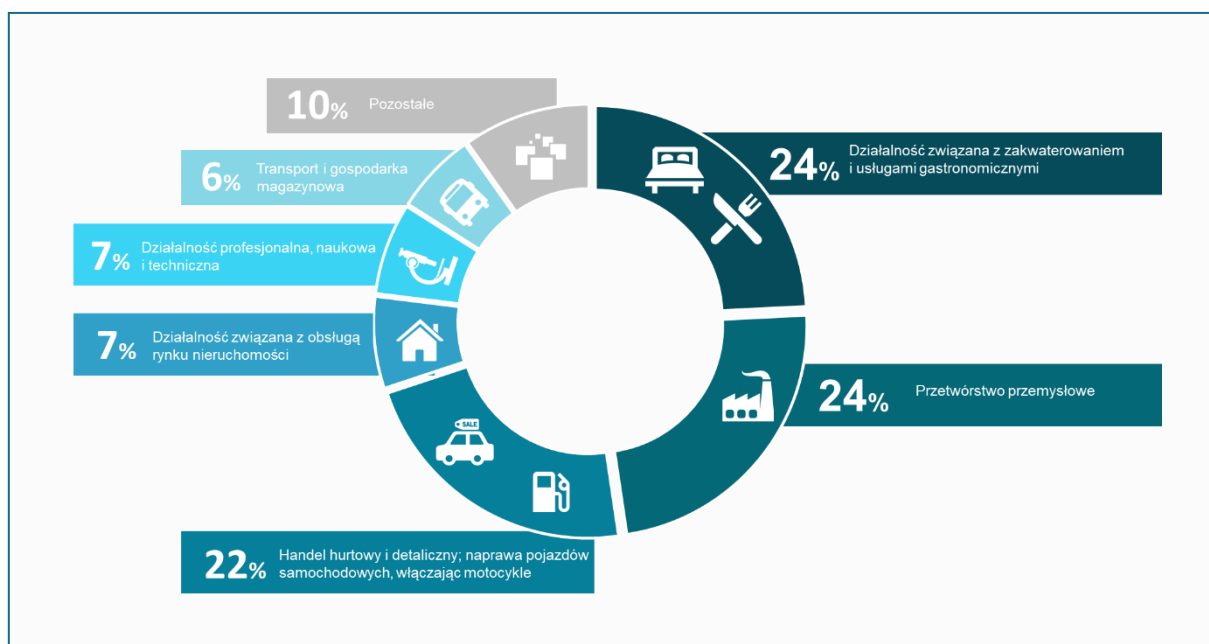


Chart No. 10. The most frequent types of activity run by entities supplying waste water to the MPWiK sewage system by NACE section

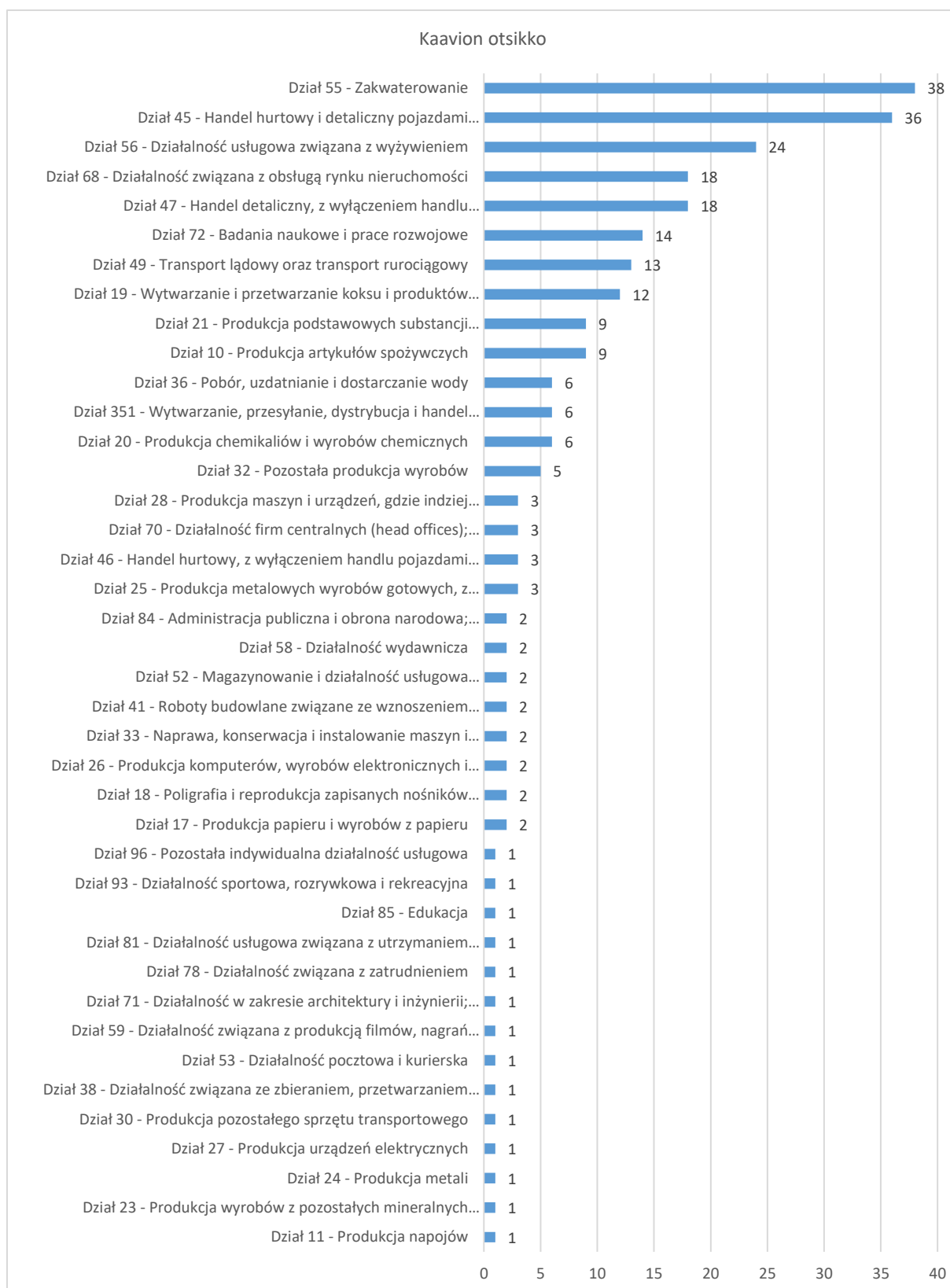
[10% Other; 6% Transportation and storage; 7% Professional, scientific and technical activities; 7% Real estate activities; 22% Wholesale and retail trade; repair of motor vehicles and motorcycles; 24% Accommodation and food service activities; 24% Manufacturing]

Types of activity run by waste water suppliers by NACE division

Moving on to the next level of NACE classification it should be noticed that in this case the number of recorded items is almost three times higher than in the case of sections (level 1). Also in this case accommodation activities (division 55) constitute a majority (38 facilities). It is also worth mentioning that food and beverage service activities, i.e. NACE division 56 ranked third (24 facilities). Although both divisions belong to the most numerous section I, but after moving to the level of divisions, they are divided into wholesale and retail trade as well as repair of motor vehicles (NACE division 45). It is also worth mentioning that facilities connected to the MPWiK sewage system belong to two classes:

- 45.11 Sale of cars and light motor vehicles
- 45.20 Maintenance and repair of motor vehicles.

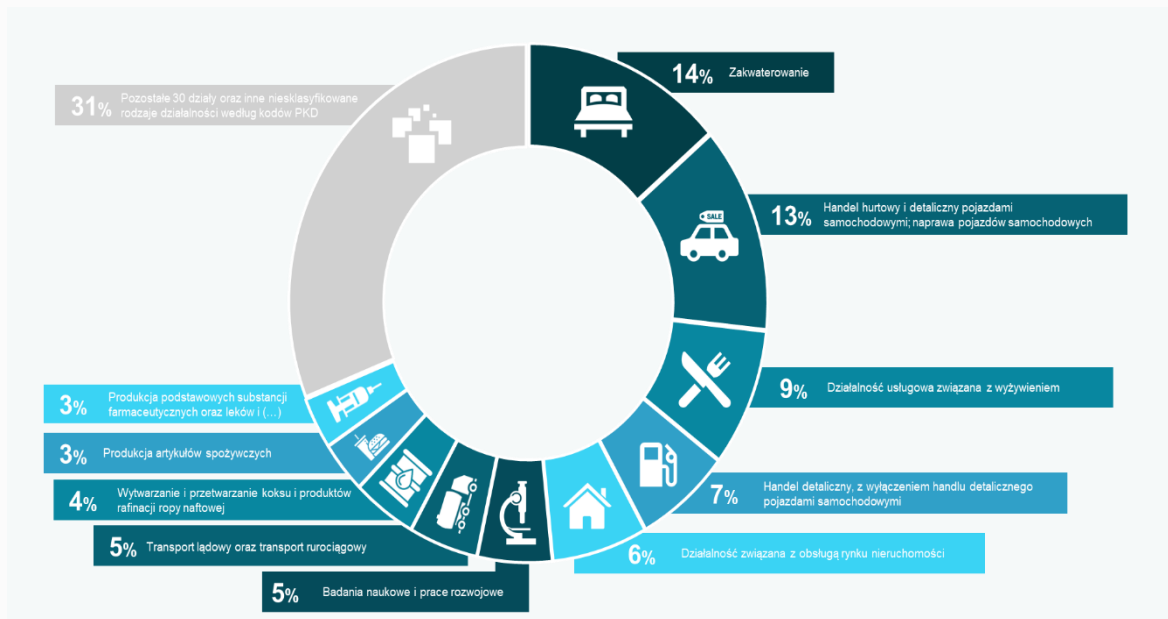
As an example, it should be mentioned that waste water suppliers in the first group include car showrooms, car washes and car repair stations.



[Division 55 accommodation; Division 45 wholesale and retail trade and repair of motor vehicles and motorcycles; Division 56 food and beverage service activities; Division 68 real estate activities; Division 47 retail trade, except of motor vehicles and motorcycles; Division 72 scientific research and development; Division 49 land transport and transport via pipelines; Division 19 manufacture of coke and refined petroleum products; Division 21 manufacture of basic pharmaceutical products and

pharmaceutical preparations; Division 10 manufacture of food products; Division 36 water collection, treatment and supply; Division 35 - electricity, gas, steam and air conditioning supply; Division 20 manufacture of chemicals and chemical products; Division 32 other manufacturing; Division 28 manufacture of machinery and equipment n.e.c.; Division 70 activities of head offices; management consultancy activities; Division 46 wholesale trade, except of motor vehicles and motorcycles; Division 25 manufacture of fabricated metal products, except machinery and equipment; Division 84 public administration and defence; compulsory social security; Division 58 publishing activities; Division 52 warehousing and support activities for transportation; Division 41 construction of buildings; Division 33 repair and installation of machinery and equipment; Division 26 manufacture of computer, electronic and optical products; Division 18 printing and reproduction of recorded media; Division 17 manufacture of paper and paper products; Division 96 other personal service activities; Division 93 sports activities and amusement and recreation activities; Division 85 education; Division 81 services to buildings and landscape activities; Division 78 employment activities; Division 71 architectural and engineering activities; technical testing and analysis; Division 59 motion picture, video and television programme production, sound recording and music publishing activities; Division 53 postal and courier activities; Division 38 waste collection, treatment and disposal activities; materials recovery; Division 30 manufacture of other transport equipment; Division 27 manufacture of electrical equipment; Division 24 manufacture of basic metals; Division 23 manufacture of other non-metallic mineral products; Division 11 manufacture of beverages]

Chart No. 11. *Types of activity run by entities supplying waste water to the MPWiK sewage system by NACE division*



[31% the remaining 30 divisions and other unclassified types of activities by NACE code; 3% Manufacture of basic pharmaceutical products and pharmaceutical preparations; 3% Manufacture of food products; 4% Manufacture of coke and refined petroleum products; 5% Land transport and transport via pipelines; 5% Scientific research and development; 14% Accommodation; 13% Wholesale and retail trade and repair of motor vehicles and motorcycles; 9% Food and beverage service activities; 7% Retail trade, except of motor vehicles and motorcycles; 6% Real estate activities]

Chart No. 12. The most frequent types of activity run by entities supplying waste water to the MPWiK sewage system by NACE division

Interestingly enough, a substantial number of premises is classified to NACE division 68, which covers real estate activities. Such activities are represented by such entities as ATRIUM POLAND 1 Sp. z o.o. REDUTA 2 Sp. komandytowa, which is the administrator of the Atrium Reduta shopping mall at Aleje Jerozolimskie Ave. Another entity in this group is CH Warszawa U Sp. z o.o., the administrator of the Shopping Mall at 427 Puławska St., and Crystal Warsaw Sp. z o.o., which administers the GALERIA MOKOTÓW Shopping Mall at 12 Wołoska St. Division 68 also contained an entity which leases production areas, i.e. Centrum Naukowo - Produkcyjne Materiałów Elektronicznych CeMat 70 S.A.

These entities very often have their own sewage networks which collect waste water from a number of plants located in the areas that they operate (e.g. from food service companies or production activities performed in other buildings).

Types of activity run by waste water suppliers by NACE class

The last level separated for the purposes of the research is NACE classes. In this case industrial waste water suppliers are represented in only approx. 11.4% of all classes specified in NACE. A detailed list of classes with information on the number of facilities in the respective classes is presented in Table No. 13.

No.	Class type	Number of premises
1	55.10 Hotels and similar accommodation	38
2	45.11 Sale of cars and light motor vehicles	25
3	56.10 Restaurants and mobile food service activities	23
4	68.20 Renting and operating of own or leased real estate	16
5	19.20 Manufacture of refined petroleum products	12
6	72.19 Other research and experimental development on natural sciences and engineering	12
7	45.20 Maintenance and repair of motor vehicles	11
8	49.31 Urban and suburban passenger land transport	11
9	21.20 Manufacture of pharmaceutical preparations	8
10	47.30 Retail sale of automotive fuel in specialised stores	7
11	36.00 Water collection, treatment and supply	6
12	47.11 Retail sale in non-specialised stores with food, beverages or tobacco predominating	6
13	10.71 Manufacture of bread; manufacture of fresh pastry goods and cakes	5
14	35.30 Steam and air conditioning supply	5
15	47.29 Other retail sale of food in specialised stores	4
16	20.42 Manufacture of perfumes and toilet preparations	3
17	17.21 Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	2
18	18.12 Other printing	2
19	20.41 Manufacture of soap and detergents, cleaning and polishing preparations	2
20	32.50 Manufacture of medical and dental instruments and supplies	2
21	41.20 Construction of residential and non-residential buildings	2
22	46.34 Wholesale of alcoholic beverages	2
23	49.39 Other passenger land transport n.e.c.	2
24	68.10 Buying and selling of own real estate	2

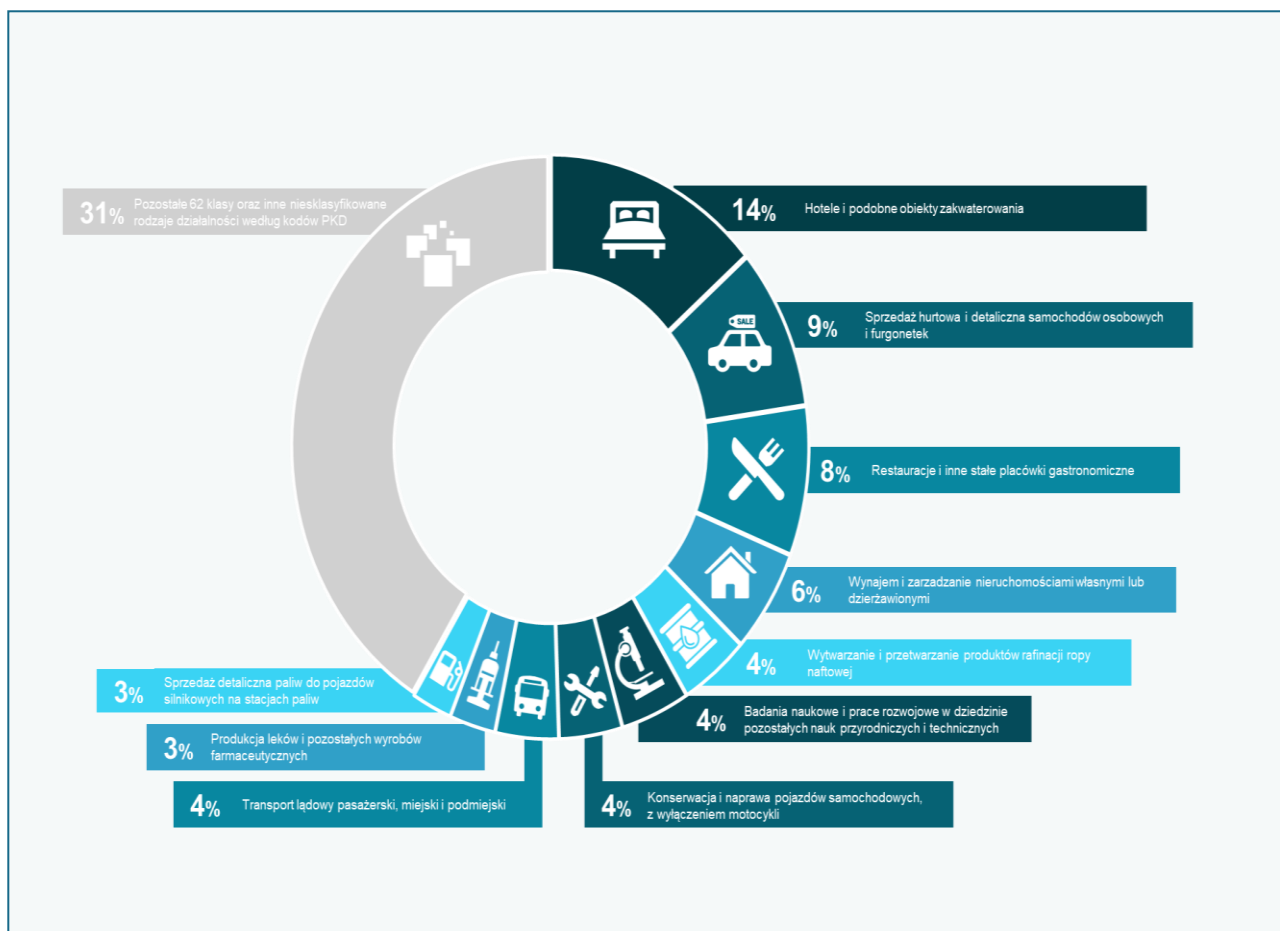
25	72.11 Research and experimental development on biotechnology	2
26	84.13 Regulation of and contribution to more efficient operation of businesses	2
27	71.20 Technical testing and analysis	1
28	10.13 Production of meat and poultry meat products	1
29	10.39 Other processing and preserving of fruit and vegetables	1
30	10.72 Manufacture of rusks and biscuits; manufacture of preserved pastry goods and cakes	1
31	10.82 Manufacture of cocoa, chocolate and sugar confectionery	1
32	11.07 Manufacture of soft drinks; production of mineral waters and other bottled waters	1
33	20.59 Manufacture of other chemical products n.e.c.	1
34	21.10 Manufacture of basic pharmaceutical products	1
35	23.61 Manufacture of concrete products for construction purposes	1
36	24.10 Manufacture of basic iron and steel and of ferro-alloys	1
37	25.40 Manufacture of weapons and ammunition	1
38	25.62 Machining	1
39	25.73 Manufacture of tools	1
40	26.51 Manufacture of instruments and appliances for measuring, testing and navigation	1
41	26.70 Manufacture of optical instruments and photographic equipment	1
42	27.20 Manufacture of batteries and accumulators	1
43	28.13 Manufacture of other pumps and compressors	1
44	28.29 Manufacture of other general-purpose machinery n.e.c.	1
45	28.41 Manufacture of metal forming machinery	1
46	30.30 Manufacture of air and spacecraft and related machinery	1
47	32.11 Striking of coins	1
48	32.13 Manufacture of imitation jewellery and related articles	1
49	32.99 Other manufacturing n.e.c.	1
50	33.12 Repair of machinery	1
51	33.16 Repair and maintenance of aircraft and spacecraft	1
52	35.13 Distribution of electricity	1
53	38.12 Collection of hazardous waste	1
54	46.90 Non-specialised wholesale trade	1
55	47.19 Other retail sale in non-specialised stores	1
56	52.10 Warehousing and storage	1
57	52.23 Service activities incidental to air transportation	1
58	53.10 Postal activities under universal service obligation	1
59	56.21 Event catering activities	1
60	58.13 Publishing of newspapers	1
61	58.11 Book publishing	1
62	59.14 Motion picture projection activities	1
63	70.10 Activities of head offices	1
64	70.11 Developing and selling of own real estate	1
65	70.22 Business and other management consultancy activities	1
66	78.10 Activities of employment placement agencies	1
67	81.29 Other cleaning activities	1
68	85.29 other education n.e.c.	1
69	93.11 Operation of sports facilities	1
70	96.01 Washing and (dry-) cleaning of textile and fur products	1

Chart No. 13. *Types of activity run by entities supplying waste water to the MPWiK sewage system by NACE class*

The segmentation of classes is visible especially in the area of manufacturing. The section level manufacturing ranked second, with a 24% share (see section C), but at the class level the only prominent segment of business activity is manufacture of refined petroleum products (NACE code 19.20). However, the specified type of activity in this case does not fully reflect the nature of the activity actually performed on these premises. This applied to 12 premises operated by Polski Koncern Naftowy ORLEN S.A. In these specific cases the core business is in fact retail sale of automotive fuel in specialised stores (47.30) . However, adopting the core business of a given entity as a point of reference does not make it possible to avoid this type of inaccuracies.

In the context of production activities it is also noteworthy that in other cases a considerable segmentation of activities is observed. In practice production activities in Warsaw are quite varied, with as many as 32 classes in section C (manufacturing). As far as production and industrial facilities account for almost 25% of all facilities discharging industrial waste water to the MPWiK sewage system, there is no clearly dominating class. There are two industrial divisions:

- Division 20 – manufacture of chemicals and chemical products (6 facilities)
- Division 21 – manufacture of basic pharmaceutical products and pharmaceutical preparations (9 facilities).



[31% the remaining 62 divisions and other unclassified types of activities by NACE code; 3% Retail sale of automotive fuel in specialised stores; 3% Manufacture of pharmaceutical preparations; 4% Urban and suburban passenger land transport; 14% Hotels and similar accommodation; 9% Sale of cars and light motor vehicles; 8% Restaurants and mobile food service activities; 6% Renting and operating of own or leased real estate; 4% Manufacture of refined petroleum products; 4% Other research and experimental development on natural sciences and engineering; 4% Maintenance and repair of motor vehicles]

Chart No. 14. The most frequent types of activity run by entities supplying waste water to the MPWiK sewage system by NACE class

2.3. Characteristics of industrial waste water suppliers based on the data from Wody Polskie

Independently of MPWiK data, attention should be drawn to the conclusions from data collected by Wody Polskie. As part of its tasks, Wody Polskie are in charge of water law permits, including permits for discharging industrial waste water to sewage systems owned by other entities, and calculate and collect charges for water services (see point 1.3 in Part 1 of this study).

2.3.1. Range of data applied for the purposes of the Report

With letter of 5 September 2019 the Infrastructure Department of the City of Warsaw submitted an application to the Director of RZGW in Warsaw for the provision of **access to**:

- 1) **the list of entities which, in the area of MPWiK's operations** covering Warsaw and the communes: Michałowice, Nieporęt, Raszyn, Serock, Wieliszew, and towns of Piastów and Pruszków, have **valid water law permits for**:
 - 2) discharging waste water into water bodies or ground;
 - 3) discharging waste water to sewage systems owned by other entities generating industrial waste water which contains substances that are particularly harmful to the aquatic environment, as defined in legal regulations issued on the basis of the Water Law;

- 2) **the list of entities running business activities in the area of MPWiK's operations which in 2018 were obligated to pay the fee for water services involving the release of waste water into water or ground**, with information on:
 - a) the amount of **fixed fees** paid by the respective entities obligated to pay the aforementioned fee, including information on **the maximum permissible amount of waste water released to water or ground expressed in m³/s and m³/year** in the water law permit or integrated permit;
 - b) the amount of **variable fees** paid by the respective entities obligated to pay the aforementioned fee, including information on the amounts and types of waste water released to water or ground forming the basis for calculating the variable fee (see Article 272 (6) of the Water Law).

- 3) **information on proceedings for charging the increased fee referred to in Article 280 (1) of the Water Law for discharging waste water into water bodies or ground without the required water law permit or integrated permit for discharging waste water into water bodies or ground**, in particular information on:
 - a) the number of proceedings conducted in the aforementioned cases by the authorities of catchment areas where MPWiK operates;
 - b) information on decisions made in those cases, in particular on the amount of the calculated increased fees.

2.3.2. Conclusions arising from data made available by Wody Polskie

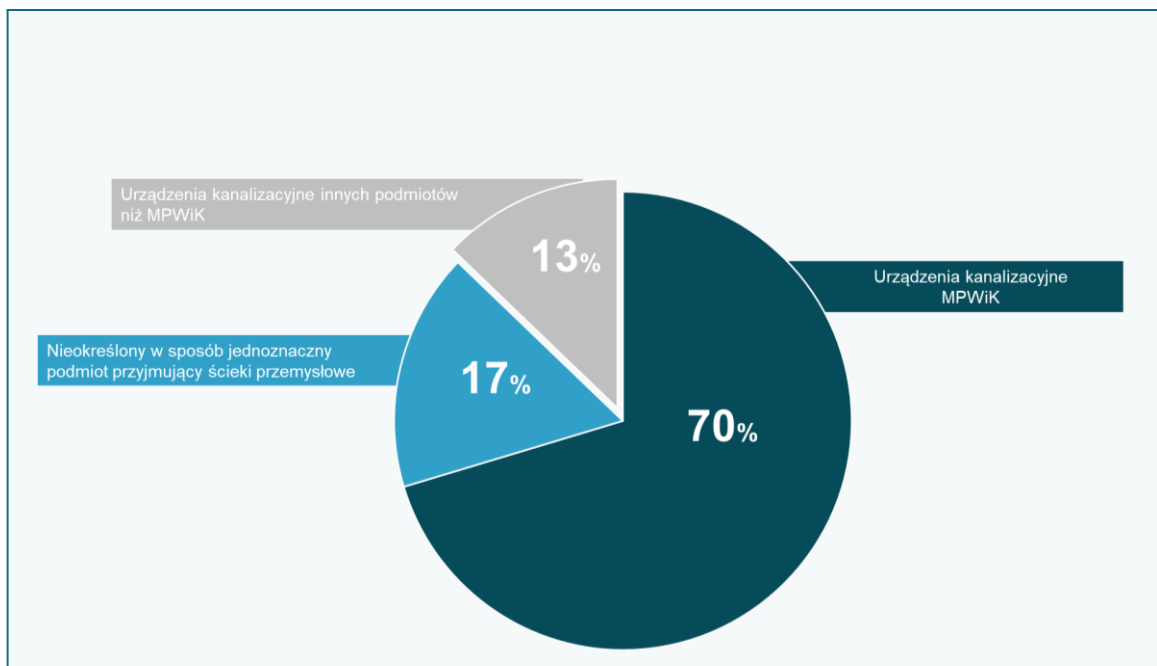
As demonstrated by the data supplied by Wody Polskie, in the area of MPWiK's activities covering Warsaw and the Michałowice, Nieporęt, Raszyn, Serock and Wieliszew communes as well as Piastów and Pruszków towns, there was a total of 289 water law permits covering waste water release to the environment and discharge of industrial waste water containing substances particularly harmful to the aquatic environment to the sewage systems owned by other entities⁹⁷. It

⁹⁷ It is also important to mention that the aforementioned list contained water law permits for the release of rain water and thaw water. The inclusion of this category of water law permits may result from the fact that according to the Water Law of 2001 rain water and thaw water was qualified as waste water. This legal status was maintained until 31 December 2017. In legal transactions there are still water law permits for the release of waste water in the form of rain water and thaw water.

should be noted that in this group as many as 226 permits were water law permits for the release of industrial waste water to the sewage systems owned by another entity (approx. 78% of all permits).

From the point of view of this analysis, the key fact is that a considerable majority of water law permits valid for MPWiK's area of operation covers the release of industrial waste water to the MPWiK sewage system (159 permits, 70%).

However, the actual number of water law permits for releasing industrial waste water to the MPWiK sewage system may be higher. This stems from the fact that Wody Polskie listed 38 permits (17%) with no data on the entity owning the sewage system to which industrial waste water is discharged. However, it can be suspected that a large proportion of those belongs to MPWiK, as 4 water law permits were issued for entities operating premises where MPWiK runs regular quality supervision of the supplied industrial waste water. Also the location of a number of connections (e.g. the city centre) makes it possible to assume that these are sewage facilities. However, in order to ensure data precision, it seemed justifiable to place this group of permits in a separate category.



[13% - Sewage facilities of entities other than MPWiK; 17% - Unspecified entities receiving industrial waste water; 70% - MPWiK's sewage system]

Chart No. 15. The ratio of water law permits for the release of industrial waste water containing substances particularly harmful to the environment to the sewage systems owned by MPWiK to permits for the release of this type of waste water to other sewage facilities (for MPWiK's area of operation, as at August 2019).

However, as to other entities owning sewage facilities which receive industrial waste water containing particularly harmful substances to the environment, currently there are 25 such entities. They include both private companies which provide such services to industrial waste water suppliers and public entities. In the latter case these are in particular water and sewage management companies other than MPWiK, and local government units (communes). A detailed list of entities other than MPWiK to which industrial waste water is supplied in the area where the Company operates is presented in the Table below.

No.	Name of the owner of sewage facilities collecting industrial waste water in the area of MPWiK's operation
1	Centrum Naukowo-Produkcyjnego Materiałów Elektronicznych CEMAT'70 S.A.
2	The Michałowice Commune
3	The Raszyn Commune
4	The Commune Waste Water Treatment Plant in Babice Stare
5	Gminne Przedsiębiorstwo Komunalne EKO-RASZYN Sp. z o.o.
6	Immopoland Sp. z o.o. based in Warsaw
7	IOG POLAND PARK 1 Sp. z o.o.
8	Jagiellońskie Centrum Logistyczne Sp. z o.o.
9	Mera Park sp. z o.o.
10	Otwockie Przedsiębiorstwo Wodociągów i Kanalizacji Sp. z o.o.
11	PARTNER Dariusz Apelski
12	PKP S.A.
13	Pontefract Sp. z o.o.
14	Przedsiębiorstwa Gospodarki Komunalnej Żyrardów Sp. z o.o.
15	Przedsiębiorstwo Wodociągowo-Kanalizacyjne "Legionowo" Sp. z o.o.

16	Przedsiębiorstwo Dochodzenia Roszczeń i Prowadzenia Egzekucji Sp. z o.o.
17	Przedsiębiorstwo Państwowe "Porty Lotnicze"
18	Przedsiębiorstwo Wodociągów i Kanalizacji Sp. z o.o. in Wołomin
19	TBS Wieliszew
20	TOBZAMER S.J. based in Warsaw
21	Wodociąg Marecki sp. z o.o.
22	Zakład Wodociągów i Kanalizacji in Ożarów Mazowiecki
23	Zespół Zarządców Nieruchomości Sp. z o.o.

Table No. 7. List of owners of sewage facilities collecting industrial waste water in the area of MPWiK's operation Source: Director of RZGW PGW Wody Polskie, as at August 2019

It is noteworthy that MPWiK collects industrial waste water from some of the above mentioned entities. For instance, MPWiK collects industrial waste water from Przedsiębiorstwo Wodociągowo – Kanalizacyjne „Legionowo” sp. z o.o., Wodociągi Mareckie sp. z o.o., and Centrum Naukowo-Produkcyjne Materiałów Elektronicznych CEMAT'70 S.A. In practice sewage facilities of these entities may constitute only an intermediate collector sewer which is used to transport the waste water to the MPWiK sewage system. This applies to CEMAT'70 S.A. and to some other entities. However, it is impossible to rule out separate waste water management by entities receiving them in their sewage systems.

Yet, it seems that this kind of intermediation in waste water transport is quite common. In practice, however, problems may arise with the waste water generated by the supplier and transported to the intermediary's network which is directly connected to the MPWiK sewage system. The contractual relationships bind only MPWiK and the intermediary, so the Company has little impact on the activities of the actual waste water supplier. Thus, it seems that MPWiK should cover such intermediaries with special supervision.

The comparison of the data delivered by Wody Polskie with MPWiK's data on entities with an agreement for the collection of industrial waste water leads to a conclusion that currently MPWiK has more such agreements than the issued water law permits. As demonstrated by the data of Wody Polskie, at least 109 entities have a water law permit for the release of industrial waste water containing substances particularly harmful to the aquatic environment to the sewage systems owned by MPWiK. Furthermore, although in 4 water law permits the owner of the sewage system was not specified, but after the verification of MPWiK's business partners it can be assumed that also in this case the water law permits refer to the discharge of waste water to the Company's sewage system. The above group of entities also includes 19 entities which have water law permits, but the agreements do not specify exactly the entity which collects the waste water. However, the location of discharge (connection) points leads to a conclusion that a large proportion of industrial waste water is discharged to MPWiK sewage network.

To recapitulate, as demonstrated by the data of Wody Polskie, at least 110 -130 entities have a water law permit for the discharge of industrial waste water containing substances particularly harmful to the aquatic environment to the sewage systems owned by MPWiK

Proceeding to the analysis of the list of facilities from which industrial waste water is discharged to sewage systems, it should be mentioned that currently it consists of approx. 200-210 entities. The difference between the data of Wody Polskie and MPWiK may result from the fact that water law permits are obligatory only for the release of industrial waste water containing substances particularly harmful to the aquatic environment to the sewage systems owned by MPWiK. The Company is authorised to inspect a given supplier even if it has not declared the release of such substances, but “ordinary” industrial waste water⁹⁸. Furthermore, the difference in data may result from the fact that the list of Wody Polskie includes only premises located in Warsaw and the Michałowice, Nieporęt, Raszyn, Serock and Wieliszew communes as well as Piastów and Pruszków towns. As indicated in the resolutions of the Regional Council of the Mazowieckie Province on delimiting the Agglomeration, the waste water catchment area of MPWiK also covers towns belonging to other communes (e.g. Ożarów Mazowiecki, Legionowo). Finally, it must be stated that Wody Polskie is a relatively new institution, operating since 1 January 2018. In practice, the considerable majority of decisions in legal transactions was issued before that date. Thus, it is possible to risk a statement that the database of Wody Polskie is incomplete in this respect.

2.4. Data on the management of liquid waste of industrial origin

It should be restated that some industrial plants are forced to store their waste water in septic tanks (e.g. as they cannot be connected to the network). In practice, contaminants found in these plants’ waste water are a burden to municipal sewage systems, as through septage receiving stations they reach the waste water treatment plant.

As demonstrated in the legal part of this analysis, the rules of dealing with liquid waste are specified in the Act on maintaining cleanliness and order in communes and secondary legislation issued on its basis. In practice it is important to state that the commune runs septic tank records (Article 3(3)(1) ucpg) in order to control the frequency of emptying these tanks, and to develop a sewage network development plan. Also, the commune performs supervision over the performance of duties imposed on real property owners (Article 5960 of ucpg), Finally, the commune verifies reports filed by entities performing activities in the field of septic tank emptying and transporting liquid waste (Article 9p(1) and (2) of ucpg).

2.4.1. The number of entities providing services in the field of emptying septic tanks and transporting liquid waste

⁹⁸ “Ordinary” industrial waste water should be understood as industrial waste water, as defined in Article 2 (11) of uzzw, Article 16 (64) of the Water Law and Article 3 (38c) of POŚ, which does not contain substances particularly harmful to the aquatic environment, In other words, ordinary waste water is industrial waste water not being domestic waste water or rain or thaw water, resulting from rainfall or snow fall, generated in relation to the commercial, industrial, warehousing, transport or service activities run by a company, and mixed with the waste water of other entity discharged through the sewage system of the company. Importantly, this applies only to industrial waste water whose discharge to the MPWiK sewage system does not require a water law permit.

In line with the data obtained from the Waste Management Department of the City of Warsaw, the number of businesses running operations in the field of emptying septic tanks and transporting liquid waste in recent years was at a quite stable level. Between 2015 and 2019 the number of entities with a permit for such operations in Warsaw was between 120 and 128 entities and secured the needs of residents and plants storing liquid waste (waste water) in septic tanks. Detailed data are presented in Chart No. 15.

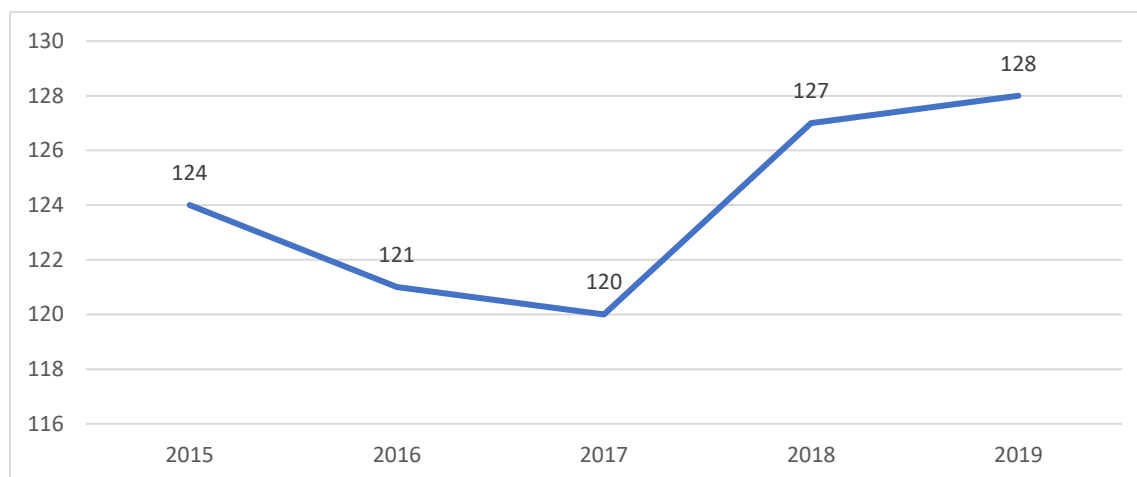


Chart No. 16. The number of entities providing services in the field of emptying septic tanks and transporting liquid waste in Warsaw between 2015 and 2019

Among the 128 entities providing the services in the field of collecting liquid waste, as many as 70 have agreements with MPWiK for their discharge to the Company's septage receiving stations. It should be noted that 30 entities are authorised to discharge waste water in the Jachranka point, and 40 in the Południe point.

As demonstrated by the data provided by the Waste Management Department of the City of Warsaw, some liquid waste from Warsaw is transported to septage receiving stations operated by other water and sewage management companies. Detailed data are presented in Table No.

List of septage receiving stations to which entities providing services in the field of emptying septic tanks and transporting liquid waste from Warsaw can transport liquid waste	
City/town	Street
Warsaw	63 Jagiellońska St.
	6 Odlewnicza St.
	190/192 Syta St.
	104 gen. A. Chruściela St.
Legionowo	Sikorskiego St.
Jachranka St.	Zegrzyńska St.
Ząbki	Piłsudskiego St.

Łomianki	2a Brukowa St.
Stare Babice	36 Kutrzeby St.
Truskaw	8 Mokre Łąki St.
Piaseczno	39 Żeromskiego St.
Falenty	/
Konstancin-Jeziorna	45 Mirkowska St.
Leśniakowizna near Wołomin	2 Krymska St.
Otwock	1 J.I. Kraszewskiego St.
Sulejówek	1 Poligonowa St.
Mińsk Mazowiecki	1 A. Chróścielewskiego St.
Radzymin	13 Księżycowa St.
1 D Kobylin near Grójec	/
Długa Kościelna	/
86 Moczydłów	/
Pruszków	Poznańska St.
Błonie	5 Towarowa St.
Józefów near Błonie	1 Leśna St.
Grodzisk Mazowiecki	4 Ceglana St.
Żyrardów	5 Czysta St.
Zgierz	2 Kwasowa St.
	26 W. Łukasińskiego St.
Warka	74 Turystyczna St.

Table No. 8. List of septage receiving stations to which entities providing services in the field of emptying septic tanks and transporting liquid waste from Warsaw can transport liquid waste. Source: The Waste Management Department of Warsaw.

2.4.2. Quantities of liquid waste collected from Warsaw between 2015 and 2019

As demonstrated by the data of the Waste Management Department of the City of Warsaw, the total amount of liquid waste from Warsaw in 2018 was 1,458,207 m³. This was the highest value achieved in the last 5 years.

Type of liquid waste	Quarter	Quantities of liquid waste collected from Warsaw in the respective quarters of a given year (in m ³)				
		2015	2016	2017	2018	2019
domestic	I	309,157.82	260,666.45	309,296.40	321,901.84	346,279.99
municipal		30,002.83	21,792.05	24,575.24	31,714.53	19,619.21
industrial		6,557.00	4,000.17	4,862.80	5,570.45	5,002.70
domestic	II.	289,819.920	269,705.860	313,101.050	326,095.790	362,164.480
municipal		64,419.200	22,160.730	29,099.670	30,903.590	24,576.000
industrial		3,562.000	3,848.270	6,664.500	4,752.350	5,052.840
domestic	III.	292,069.08	276,959.26	296,521.71	325,450.52	/
municipal		27,128.44	26,007.39	29,074.18	31,048.87	/

industrial		3,868.00	3,506.00	7,637.00	3,794.30	/
domestic	IV.	305,914.70	322,522.00	305,297.82	337,824.64	/
municipal		27,640.26	18,793.86	31,249.77	34,516.89	/
industrial		3,699.00	3,804.20	7,552.00	4,633.25	/
Type of liquid waste		Quantities of liquid waste from Warsaw in the respective years (2015-2018) (in m³)				
		2015	2016	2017	2018	2019 (Q1 and 2)
domestic		1,196,961.52	1,129,853.57	1,224,216.98	1,311,272.79	708,444.47
municipal		149,190.73	88,754.03	113,998.86	128,183.88	44,195.21
industrial		17,686.00	15,158.64	26,716.30	18,750.35	10,055.54
Total [liquid] waste for a given year		1,363,838.25	1,233,766.24	1,364,932.14	1,458,207.02	762,695.22

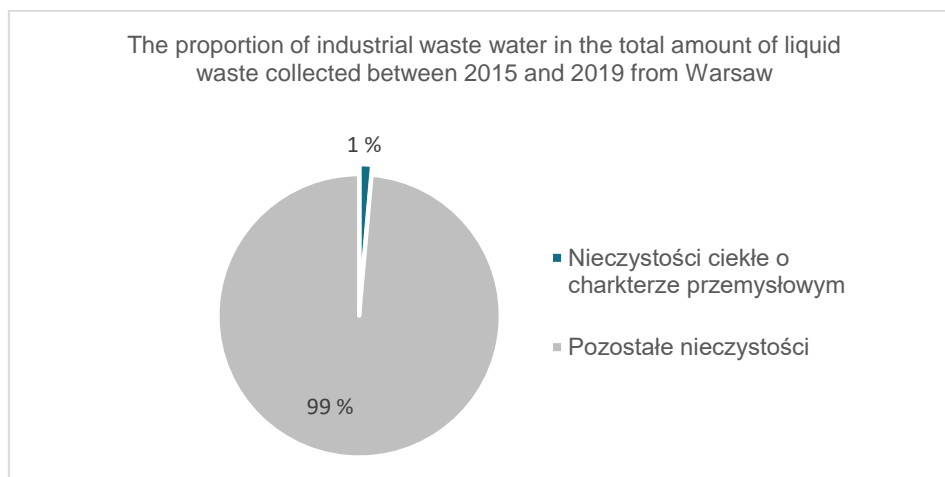
Table No. 9. Quantities of liquid waste collected from Warsaw in a breakdown into domestic, municipal and industrial waste water between 2015 and 2019 (data in m³) Source: The Waste Management Department of Warsaw

It is worth mentioning that the share of industrial waste water in the total amount of liquid waste from the area of Warsaw is low. In 2018 it was only 18,750.35 m³ out of the total amount of liquid waste. However, the actual amount of liquid waste may exceed the identified value. According to the employees of the Waste Management Department, some entities declare the discharge of domestic or municipal waste water despite the fact that they actually supply industrial waste water. It should be emphasised that under the current regulations it is forbidden to mix domestic and industrial liquid waste transported to the receiving station in a single vacuum truck. There is a suspicion that some companies violate these regulations in order to increase their revenues related to the discharged waste water.

Furthermore, a question arises whether companies properly classify waste water transported to the septage receiving stations. In practice, industrial waste water is both waste for which a water law permit is required in order to introduce them to the MPWiK network and industrial waste water not being domestic waste water or rain or thaw water, resulting from rainfall or snow fall, **generated in relation to the commercial, industrial, warehousing, transport or service activities** run by a company, and mixed with the waste water discharged by other entities through the sewage system of the company. Thus, if the waste water from the types of activities mentioned above reach the septic tank, it should be classified as industrial waste water.

However, there may be a problem with classifying waste water e.g. from toilets used by employees of shops or other commercial businesses, which account for a very large percentage of businesses in MPWiK's area of operation. If such waste water is not mixed with other waste water, according to Article 2 (9) of uzzw it should be considered domestic waste. In line with the definition, domestic waste is waste water from residential buildings, tourist accommodation establishments and public

utility buildings which originates predominantly from the human metabolism and from household activities, as well as waste water of similar composition discharged from such buildings. In this context, the term of public utility buildings requires definition. If we conclude that shops meet the said function, a problem arises of classifying waste water from such buildings. Due to these doubts, developing a uniform practice in this area seems justified.



[Industrial liquid waste (1%); other liquid waste (99%)]

Chart No. 17. The proportion of industrial waste water in the total amount of liquid waste collected between 2015 and 2019 from Warsaw. Source: The Waste Management Department of Warsaw .

2.4.3. Information on the quantity and quality of waste water transported to septage receiving stations from which waste water is discharged to MPWiK's treatment stations

As shown above, septage receiving stations to which liquid waste from Warsaw is transported are located not only in the area of Warsaw but also in other communes. From the perspective of waste water treatment plants operated by MPWiK, there are 7 main septage receiving stations, from which liquid waste is transported directly to MPWiK's treatment plants⁹⁹. Quite importantly, only two of these receiving stations are managed directly by MPWiK (the station at Jagiellońska Street in Warsaw and at 190/192 Syta St.(on site of the "Południe" Plant). Other septage receiving stations are managed by other entities, both private and municipal (e.g. other water and sewage management companies implementing own tasks of the respective communes). As a result, MPWiK has direct control over liquid waste transported to the two mentioned receiving stations.

⁹⁹ In the database submitted by MPWiK there was also general information on the septage receiving station in Łomianki (owned and operated by ZWiK w Łomiankach Sp. z o.o.) and the septage receiving station in Otwock (owned and operated by OPWiK w Otwocku Sp. z o.o.). However, due to the lack of detailed data on the amount of received liquid waste and the fact that waste water from these stations reaches other waste water treatment plants than those operated by MPWiK, the aforementioned data were excluded.

The main source of waste water transported to receiving stations are septic tanks operated by individual collecting entities which contain domestic waste water. It is crucial to mention that among the septage receiving stations operated by MPWiK only the station at Syta St. on site of the "Południe" Plant collects industrial liquid waste. Agreements for the collection of industrial waste water for the station at Syta St. indicate low quantities of this types of waste water (below 5%). However, it should be stated that the system of recording waste water in a breakdown into domestic waste water, waste water from sanitary cabins and industrial waste water was introduced as late as in 2016.¹⁰⁰ However, as shown by MPWiK, the actual share of industrial waste water is probably higher. As already mentioned, this results from the fact that some entities collecting liquid waste with vacuum trucks may violate the prohibition of mixing industrial and domestic waste water. Furthermore, entities which operate receiving stations base their data on the declarations of waste water suppliers, so a question arises whether entities managing septage receiving stations other than MPWiK accurately verify the origin of liquid waste transported to them.

The number of served vacuum trucks differs depending on the septage receiving station. The highest amount of liquid waste is transported to the septage receiving station in Ząbki at Piłsudskiego St., on average more than 62,000 m³/month in 2017. In the case of other septage receiving stations the average monthly amount of liquid waste is from 13,000 m³/month to 21,600 m³/month. Substantially different values were recorded for the station operated by MPO, with the amount of liquid waste received in 2017 and 2018 slightly exceeding 3,000 m³.

A detailed list of septage receiving stations from which liquid waste water is transported to waste water treatment plants operated by MPWiK with information on the average quantity of liquid waste received in a month (data for 2017 and partial for 2018) is presented in Table No. 10.

¹⁰⁰ This liquid waste collection system is also used in Jachranka, but MPWiK generally does not collect this type of waste in this location due to the specific characteristics of the "Dębe" plant.

No.	Address of the septage receiving station	Collection of industrial waste water	Sewage treatment plant receiving the waste water	Owner	Entity operating the plant	Average quantity of waste water disposed of in one month to a waste water treatment plant (data in m3/month)		Waste water control by MPWiK	The characteristics of the sewage received
						2017	2018		
1.	65 Jagiellońska St., Warsaw	No data	"Czajka"	MPWiK	Miejskie Przedsiębiorstwo Oczyszczania w M. st. Warszawie Sp. z o.o.	3,022	3,174	Yes	The main waste water stream from site toilets (hence the increased qualitative test results)
2.	6 Odlewnicza St., Warsaw	No data	"Czajka"	Owned by the City of Warsaw until 20/09/2018	ABIS S.C.	13,748	14,818	Yes	A lot of waste water which is not domestic waste water (e.g. from land drainage - hence the lower qualitative parameter values)
3.	Piłsudskiego St., Żąbki	No data	"Czajka"	Przedsiębiorstwo Wodociągów i Kanalizacji w Żąbkach Sp. z o.o.	Przedsiębiorstwo Wodociągów i Kanalizacji w Żąbkach Sp. z o.o.	62,895	no data	No	no data
4.	W. Sikorskiego St., Legionowo	No data	"Czajka"	Przedsiębiorstwo Wodociągowo-Kanalizacyjne "Legionowo" Sp. z o.o.	Przedsiębiorstwo Wodociągowo-Kanalizacyjne "Legionowo" Sp. z o.o.	21,608 m3	no data	No	no data
5.	190/192 Syta St., Warsaw (on site of the „Południe” plant)	Yes	"Południe"	MPWiK	MPWiK	17,747 m3	17,923	Yes (automated system and ongoing on-line control)	"Typical" fresh domestic waste water with a small share of industrial waste water
6.	Jachranka (Serock Commune)	No	"Dębe"	MPWiK	MPWiK	15,570	16,200	Yes (automated system and ongoing on-line control)	A substantial share of waste water probably coming from leaking septic tanks (hence the increased qualitative test results)
7.	Pruszków	No data	"Pruszków" Plant	Zakład Wodociągów i Kanalizacji w Łomiankach Sp. z o.o.	Zakład Wodociągów i Kanalizacji w Łomiankach Sp. z o.o.	no data	17,993	Yes	no data

Table No. 10. List of septage receiving stations from which liquid waste water is transported to waste water treatment plants operated by MPWiK with information on the average quantity of liquid waste received in a month (data for 2017 and partial for 2018) Source: MPWiK.

As far as the quality of liquid waste transported with vacuum trucks is concerned, it is diversified and depends on the specific septage receiving station. This is due to the types of waste reaching the specific septage receiving stations. According to MPWiK, it can be assumed that:

- a) the septage receiving station at 65 Jagiellońska St. collects the main waste water stream from site toilets (hence the increased qualitative test results),
- b) the septage receiving station at 6 Odlewnicza St. collects a lot of waste water which is not domestic waste water (e.g. from land drainage [?] - hence the lower qualitative parameter values)
- c) the septage receiving station at 190/192 Syta St. on site of the "Południe" Plant collects typical fresh domestic waste water with a with a small share of industrial waste water,
- d) the septage receiving station in Jachranka collects a substantial share of waste water probably coming from leaking septic tanks (hence the increased qualitative test results).

Importantly, the received liquid waste in general does not have a substantial impact on the waste water treatment process in the case of the "Czajka", "Południe" and "Pruszków" treatment plants.

In the case of the "Dębe" treatment station, due to the size (capacity) of the facility and technical standards, the received waste water with an atypical composition unfavourable for treatment with the use of activated sludge may impact the process. Therefore, MPWiK does not accept industrial liquid waste in the Jachranka septage receiving station.

Detailed information on the quantities and quality of liquid waste transported to the main receiving stations connected to MPWiK, with information on the number of vacuum trucks accepted in the respective stations between 2017 and 2018 is presented in Appendix No. 3 to this Report.

As far as the permissible condition and composition of liquid waste transported to receiving stations operated by MPWiK, are concerned, it should be mentioned that in mid-2016 the requirements for liquid waste became stricter. A comparison of the permissible condition and composition of liquid waste transported to septage receiving stations is shown in the Table below.

Indicator	Unit	Permissible values (by mid-2016)	Permissible values (since mid-2016)
Conductance	µS/cm	30 or less	30 or less
Reaction	–	6.5-9.5	6.5-9.5
Dichromate chemical oxygen demand (COD)	mgO ₂ /l	10,000 or less	3,000 or less
Total suspended solids	mg/l	10,000 or less	2,000 or less
Petroleum ether extractables	mg/l	100 or less	200 or less

Table No. 11. Permissible condition and composition of domestic liquid waste transported to septage receiving stations operated by MPWiK before and after 2016

Furthermore, since mid-2016 there has been separate requirements for liquid waste from sanitary cabins transported to septage receiving stations. The permissible condition and composition of waste water from sanitary cabins transported to septage receiving stations is as follows:

Indicator	Unit	Permissible values (since mid-2016)
Conductance	mS/cm	30 or less
pH reaction	–	6.5-9.5
Dichromate chemical oxygen demand (COD)	mgO ₂ /l	25,000 or less
Total suspended solids	mg/l	15,000 or less
Petroleum ether extractables	mg/l	200 or less

Table No. 12. Permissible condition and composition of liquid waste transported from sanitary cabins to septage receiving stations operated by MPWiK since mid-2016

In addition, separate requirements are set for industrial liquid waste transported to septage receiving stations operated by MPWiK. The exact concentration values of pollution indicators and the acceptable condition of industrial liquid waste are presented in the table below.

Indicator	Unit	Permissible values
Conductance	mS/cm	30 or less
pH reaction	pH	6.5-9.5
Five-day biochemical oxygen demand (BOD ₅)	mgO ₂ /l	700 or less
Chemical oxygen demand (COD)	mgO ₂ /l	1000 or less
Total nitrogen	mgN/l	220 or less
Ammoniacal nitrogen	mgN/l	200 or less
Total phosphorus	mgP/l	15 or less
Suspended solids	mg/l	500 or less
Petroleum ether extractables	mg/l	100 or less
Non-ionic surfactants	mg/l	20 or less
Anionic surfactants	mg/l	15 or less
Chlorides	mg/l	1000 or less
Sulphates	mg/l	500 or less
Lead	mgPb/l	1.0 or less
Copper	mgCu/l	1.0 or less
Zinc	mgZn/l	5.0 or less
Cadmium	mgCd/l	0.4 or less
Total chromium	mgCr/l	1.0 or less
Chromium ⁺⁶	mgCr/l	0.2 or less
Nickel	mgNi/l	1.0 or less
Iron	mgFe/l	10 or less
Free cyanides	mg/l	0.5 or less
Complex cyanides	mg/l	5.0 or less
Mercury	mgHg/l	0.06 or less
Petroleum hydrocarbons	mg/l	15 or less

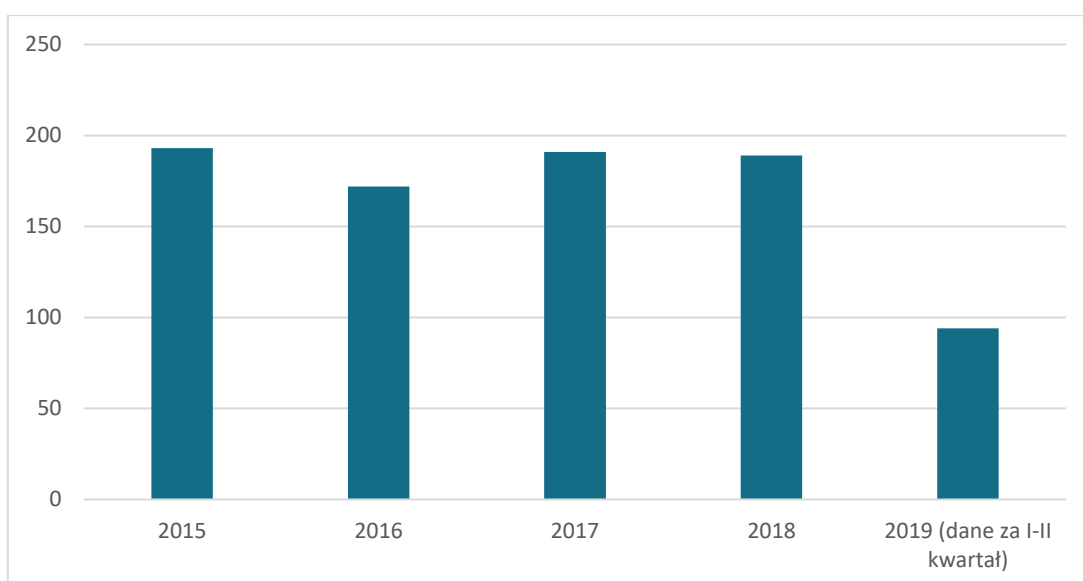
Table No. 13. Permissible condition and composition of industrial liquid waste transported to septage receiving stations operated by MPWiK since mid-2016

2.5. Quality inspections of industrial waste water discharged to the municipal sewage system

Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji w m.st. Warszawie S. A. carries out preventive measures consisting of regular quality inspections of industrial waste water transported from business entities covered by routine waste water inspections.

In 2018 168 inspections of the water and waste water management in premises covered by routine waste water inspections and 21 intervention inspections were conducted¹⁰¹. Moreover, the quality of waste water in premises covered by routine waste water inspections was checked 184 times. As at 31 December 2018 the Company's records included 279 premises covered by routine water and waste water management inspections which introduced industrial waste water to the MPWiK sewage system and 66 service recipients transporting liquid waste (also with an option of industrial waste water supply), of which 29 to the Jachranka receiving station and 37 to the receiving station at the "Południe" Plant.

The number of the performed waste water quality inspections performed in industrial plants is shown in the chart below.



[2019 – data for Q1 and Q2]

Table No. 14. The number of waste water inspections in industrial plants carried out by MPWiK between 2015 and 2019

The total number of **on-site inspections** carried out between 2015 and 2019 was **839**.

It should be noted that between 2015 and 2019 the number of samples of waste water transported from industrial plants and septage receiving stations inspected in the area of the Company's

¹⁰¹ Waste water management inspections should be understood not only as waste water quality inspections but also inspection measures covering all waste water management activities (e.g. inspections of the network and pre-treatment equipment owned by service recipients).

operations and transported by companies with vacuum trucks to septage receiving stations operated by MPWiK was:

- in 2015 – 706;
- in 2016 – 708;
- in 2017 – 700;
- in 2018 – 632;
- between Q1 and 2 2019 – 339.

Between 2015 and 2019 a total of 3085 waste water samples were collected for analysis.

2.5.1. The method used by MPWiK for monitoring the quality of waste water supplied by industrial plants between 2015 and 2019

Inspections of the water and waste water management are carried out by the employees of Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji w m.st. Warszawie S.A. with the suitable authorisation issued by the Company's Management Board. Inspections in a facility are performed by the employees of the Waste Water Technology Division (DTS) in the presence of a representative of the given entity. The frequency of inspections is determined depending on the characteristics of the premises, especially the level of odour nuisance, the potential threat to the condition of the sewage network and impact on the waste water treatment plant. During the performed inspections, the obtained information is included in the inspection report or a memo depending on the characteristics of the inspection. A DTS employee may also conduct a site inspection without the presence of a representative of the inspected entity, during which they prepare a memo and, if possible, photographic documentation of the inspection.

For quality control purposes, periodic internal orders are issued to MPWiK's laboratory for the collection of samples and the performance of laboratory tests of the waste water.

For industrial plants in the area covered by the Company's operations, the laboratory also receives, on a monthly basis, detailed information on the location of the respective collection points and the scope of analyses in the form of a list. The samples are collected in the presence of representative of the inspected entity.

During the collection of waste water, pH and temperature measurements are made on single samples, and their results are included in the report.

Quality control of the received waste water

For quality control of waste water delivered with vacuum trucks to the septage receiving stations operated by MPWiK, waste water samples are collected automatically in the receiving stations of

the “Dębe” and “Południe” Plants, except for emergency cases, when there is a necessity for a laboratory employee to collect the samples manually. Waste water which is transported by a given service recipient (i.e. a company supplying waste water with vacuum trucks) is collected for analysis at least once a month, if possible. It should be noticed that there is a considerable diversity of liquid waste water supplied to receiving stations by the respective companies – from several m³ per month (i.e. a single delivery) to several thousand m³ per month. In the case of smaller suppliers, it is not always possible to collect a sample for inspection.

In addition to collecting samples **the pH and the electric conductance of all delivered liquid waste** is monitored online. In the case of considerable diversions from the admissible values of the two parameters, the waste water is not accepted at the septage receiving station (the cut-off valve is blocking the discharge of the liquid waste). Detailed information on this issue can be found in the section on the acceptance of industrial waste water.

In the case of septage receiving stations operated by entities other than MPWiK (ABIS S.C., MPO and the receiving station in Pruszków), inspections are performed on averaged samples from various entities delivering waste water to the septage receiving station. Then contractual penalties are imposed on the operator of the receiving station who is bound by contractual provisions. The inspection and penalty system applicable to these receiving stations is based on the monthly collection of waste water samples. Individual samples are collected at the moment of discharge of the waste water from the vacuum truck (3 samples), which are then mixed, and the obtained averaged sample is analysed in terms of the condition and composition by the Laboratory Department.

Other septage receiving stations are not subject to MPWiK's inspections.

Refusal to accept liquid waste

A refusal to accept liquid waste happens on average every 2-3 times in a year and concerns industrial waste water (and sometimes liquid waste, judging by the analysis results) with the qualitative composition substantially diverging from permissible values. The refusals refer to application for the acceptance of such waste water often coming from outside the Mazowieckie Province (the companies are ready to transport the waste water across the country if they get an approval).

As far as waste water transported to septage receiving stations is concerned, if it is found to have a pH outside the range of 5.50-10.50 or conductance above 50 mS/cm, the cut-off valve is activated. In such case the waste water is not accepted to the receiving station of the Południe Plant at Syta St. and the receiving station of the Dębe Plant in Jachranka (there are several such cases in a month).

2.5.2. Contractual penalty rates applied by MPWiK

For years MPWiK has applied a system of contractual penalties in the event of exceeding the permissible levels of pollutants in waste water. The detailed rates of contractual penalties are appended to the binding agreements. In line with model agreements delivered by MPWiK, the current amounts of contractual penalties are as stated below.

Indicator	1 st degree of exceedance	Penalty rate [PLN]	2 nd degree of exceedance	Penalty rate [PLN]	3 rd degree of exceedance	Penalty rate [PLN]
Temperature [°C]	less than 5°C	0.20	5°C or more	1.20		
Reaction [pH]	less than 0.5	1.20	0.5-1.5	3.60	> 1.5	7.20
BOD5 [mgO ₂ /l]	700.0001 - 1000	2.40	1000.0001 -1500	4.80	> 1500	12.00
COD [mgO ₂ /l]	1000.0001 - 2000	1.60	2000.0001 -4000	3.20	> 4000	8.00
Total nitrogen [mgN/l]	220.0001 - 250	2.40	250.0001 - 280	4.80	> 280	12.00
Ammoniacal nitrogen [mgN/l]	200.0001 - 220	2.40	220.0001 - 250	4.80	> 250	12.00
Total phosphorus [mgP/l]	15.0001 - 20	2.40	20.0001 - 25	4.80	> 25	12.00
Total suspended solids [mg/l]	500.0001 - 600	1.50	600.0001 - 800	3.00	> 800	7.50
Petroleum ether extractables [mg/l]	100.0001-150	6.00	150.0001 - 200	12.00	> 200	30.00
Non-ionic surfactants [mg/l]	20.0001 - 30	8.00	30.0001 - 35	16.00	> 35	40.00
Anionic surfactants [mg/l]	15.0001 - 20	8.00	20.0001 - 25	16.00	> 25	40.00
Chlorides [mg/l]	1000.0001 -1200	0.80	1200.0001 -1600	1.60	> 1600	4.00
Sulphates [mg/l]	500.0001 - 600	0.80	600.0001 - 700	1.60	> 700	4.00
Lead [mgPb/l]	1.0001 - 1.5	66.00	1.5001 - 2.0	132.00	> 2.0	330.00
Copper [mgCu/l]	1.0001 - 2.0	66.00	2.0001 - 3.0	132.00	> 3.0	330.00
Zinc [mgZn/l]	5.0001 - 8.0	66.00	8.0001 - 10.0	132.00	> 10.0	330.00
Cadmium [mgCd/l]	0.4001 - 0.6	66.00	0.6001 - 0.8	132.00	> 0.8	330.00
Total chromium [mgCr/l]	1.0001 -2.0	12.80	2.0001 - 3.0	25.60	> 3.0	64.00
Chromium ⁶⁺ [mgCr/l]	0.2001 - 0.3	66.00	0.3001 - 0.5	132.00	> 0.5	330.00
Nickel [mgNi/l]	1.0001 - 2.5	54.00	2.5001 - 3.5	108.00	> 3.5	270.00
Iron [mgFe/l]	10.0001 - 20.0	1.60	20.0001 - 50.0	3.20	> 50.0	8.00
Free cyanides [mg/l]	0.5001 - 1.0	400.00	1.0001 - 2.0	800.00	> 2.0	1600.00
Complex cyanides [mg/l]	5.0001 - 10.0	40.00	10.0001 - 20.0	80.00	> 20.0	200.00
Petroleum hydrocarbons [mg/l]	15.0001- 20.0	6.00	20.0001 - 40.0	12.00	> 40.0	30.00
Mercury [mg/l]	0.1001 - 0.5	66.0	0.5001 - 0.8	132.00	> 0.8	330.00

Table No. 15. Contractual penalty ranges per unit of pollutant load depending on the degree of exceeding the permissible concentration indicators in industrial waste water discharged to the municipal sanitary or combined sewage system facilities. Source: Appendix No. 3 to Resolution of MPWiK's Management Board No. 308/2015 of 4 November 2015

Separate contractual penalty rates are specified for liquid waste supplied with vacuum trucks. Importantly, in this case separate rates are applied to the following types of liquid waste:

- a) domestic,
- b) from sanitary cabins,
- c) industrial.

Detailed information on the rates of contractual penalties applied by MPWiK in line with the model agreements for the collection of liquid waste supplied to septage receiving stations is identified in the tables below.

Indicator	1 st degree of exceedance	Contractual penalty rate [PLN]	2 nd degree of exceedance	Contractual penalty rate [PLN]	3 rd degree of exceedance	Contractual penalty rate [PLN]	4 th degree of exceedance	Contractual penalty rate [PLN]
Conductance [mS/cm]	30.01- 35	10	35.01 – 40	30	40.01 – 50	50	> 50	100
Reaction [-]	< 0.5	20	0.5 – 1.5	50	1.51 – 2.5	80	> 2.5	120
COD [mgO2/l]	3000.01 – 4500	15	4500.01 – 6000	45	6000.01 – 9000	90	> 9000	120
Suspended solids [mg/l]	2000.01 – 3000	15	3000.01 – 4000	45	4000.01 – 6000	90	> 6000	120
Petroleum ether extractables [mg/l]	200.01 - 300	15	300.01 - 400	45	400.01 - 600	90	> 600	120

Table No. 16. Rates of contractual penalties for each inspected vacuum truck depending on the degree of exceeding the permissible condition and composition of domestic liquid waste. Source: Model agreements for the collection of liquid waste supplied to septage receiving stations – Appendix P-PSC-02/02 Revision 03 of 18 May 2016

Indicator	1 st degree of exceedance	Contractual penalty rate [PLN]	2 nd degree of exceedance	Contractual penalty rate [PLN]	3 rd degree of exceedance	Contractual penalty rate [PLN]	4 th degree of exceedance	Contractual penalty rate [PLN]
Conductance [mS/cm]	30.01- 35	10	35.01 – 40	30	40.01 – 50	50	> 50	100
Reaction [-]	< 0.5	20	0.5 – 1.5	50	1.51 – 2.5	80	> 2.5	120
COD [mgO2/l]	25000.01 – 30000	15	30000.01 – 35000	45	35000.01 – 40000	90	> 40000	120

Suspended solids [mg/l]	15000.01 – 20000	15	20000.01 – 25000	45	25000.01 – 30000	90	> 30000	120
Petroleum ether extractables [mg/l]	200.01 - 300	15	300.01 - 400	45	400.01 - 600	90	> 600	120

Table No. 17. Rates of contractual penalties for each inspected vacuum truck depending on the degree of exceeding the permissible condition and composition of liquid waste from sanitary cabins. Source: Model agreements for the collection of liquid waste supplied to septage receiving stations – Appendix P-PSC-02/02 Revision 03 of 18 May 2016.

Quite importantly, MPWiK also specifies in detail the permissible concentrations of pollution and permissible industrial liquid waste (waste water) condition indicators supplied to septage receiving stations. In the event of transgressions, contractual penalties also apply. Detailed contractual penalty rates are specified in Table No. 18.

Indicator	1 st degree of exceedance	Contractual penalty rate [PLN]	2 nd degree of exceedance	Contractual penalty rate [PLN]	3 rd degree of exceedance	Contractual penalty rate [PLN]
Reaction [pH]	< 0.5	1.20	0.5 - 1.5	3.60	> 1.5	7.20
BOD5 [mgO2/l]	700.0001 - 1000	2.40	1000.0001 - 1500	4.80	> 1500	12.00
COD [mgO2/l]	1000.0001 - 2000	1.60	2000.0001 - 4000	3.20	> 4000	8.00
Total nitrogen [mgN/l]	220.0001 - 250	2.40	250.0001 - 280	4.80	> 280	12.00
Ammoniacal nitrogen [mgN/l]	200.0001 - 220	2.40	220.0001 - 250	4.80	> 250	12.00
Total phosphorus [mgP/l]	15.0001 - 20	2.40	20.0001 - 25	4.80	> 25	12.00
Total suspended solids [mg/l]	500.0001 - 600	1.50	600.0001 - 800	3.00	> 800	7.50
Petroleum ether extractables [mg/l]	100.0001 - 150	6.00	150.0001 - 200	12.00	> 200	30.00
Non-ionic surfactants [mg/l]	20.0001 - 30	8.00	30.0001 - 35	16.00	> 35	40.00
Anionic surfactants [mg/l]	15.0001 - 20	8.00	20.0001 - 25	16.00	> 25	40.00
Chlorides [mg/l]	1000.0001 - 1200	0.80	1200.0001 - 1600	1.60	> 1600	4.00
Sulphates [mg/l]	500.0001 - 600	0.80	600.0001 - 700	1.60	> 700	4.00
Lead [mgPb/l]	1.0001 - 1.5	66.00	1.5001 - 2.0	132.00	> 2.0	330.00
Copper [mgCu/l]	1.0001 - 2.0	66.00	2.0001 - 3.0	132.00	> 3.0	330.00
Zinc [mgZn/l]	5.0001 - 8.0	66.00	8.0001 - 10.0	132.00	> 10.0	330.00
Cadmium [mgCd/l]	0.4001 - 0.6	66.00	0.6001 - 0.8	132.00	> 0.8	330.00
Total chromium [mgCr/l]	1.0001 - 2.0	12.80	2.0001 - 3.0	25.60	> 3.0	64.00
Chromium+6 [mgCr/l]	0.2001 - 0.3	66.00	0.3001 - 0.5	132.00	> 0.5	330.00
Nickel [mgNi/l]	1.0001 - 2.5	54.00	2.5001 - 3.5	108.00	> 3.5	270.00
Iron [mgFe/l]	10.0001 - 20.0	1.60	20.0001 - 50.0	3.20	> 50.0	8.00
Free cyanides [mg/l]	0.5001 - 1.0	400.00	1.0001 - 2.0	800.00	> 2.0	1600.00

Complex cyanides [mg/l]	5.0001 - 10.0	40.00	10.0001 - 20.0	80.00	> 20.0	200.00
Petroleum hydrocarbons [mg/l]	15.0001 - 20.0	6.00	20.0001 - 40.0	12.00	> 40.0	30.00
Mercury [mg/l]	0.0601 - 0.5	66.0	0.5001 - 0.8	132.00	> 0.8	330.00

Table No. 18. Contractual penalty rates per unit of pollutant load depending on the degree of exceeding the permissible concentration indicators for industrial waste water delivered with vacuum trucks. Source: Model agreements for the collection of liquid waste supplied to septage receiving stations – Appendix P-PSC-02/02 Revision 03 of 18 May 2016

It is also noteworthy that the rates applied in the event of exceeding permissible levels for industrial liquid waste is generally the same as for waste water directly introduced to the sanitary or combined sewage system. Information on the receipts from contractual penalties is presented further in this Report.

2.5.3. Excessive waste water discharges found by MPWiK between 2015 and 2019

In total, taking into consideration the date of collecting samples for analysis, excessive discharges of waste water in the respective years were identified in the following amounts:

1) according to the number of premises and vacuum trucks where transgressions were found and contractual penalties were charged:

- in 2015 – 199; (66 premises; 133 vacuum trucks);
- in 2016 – 229; (50 premises; 179 vacuum trucks);
- in 2017 – 228; (63 premises; 165 vacuum trucks);
- in 2018 – 112; (30 premises; 82 vacuum trucks);
- between Q1 and 2 2019 – 49; (13 premises; 36 vacuum trucks);

– **total for 2015-2019 – 817 (222 premises, 595 vacuum trucks)** notices were sent of excessive waste water discharges.

2) according to the number of waste water samples inspected in premises and vacuum trucks:

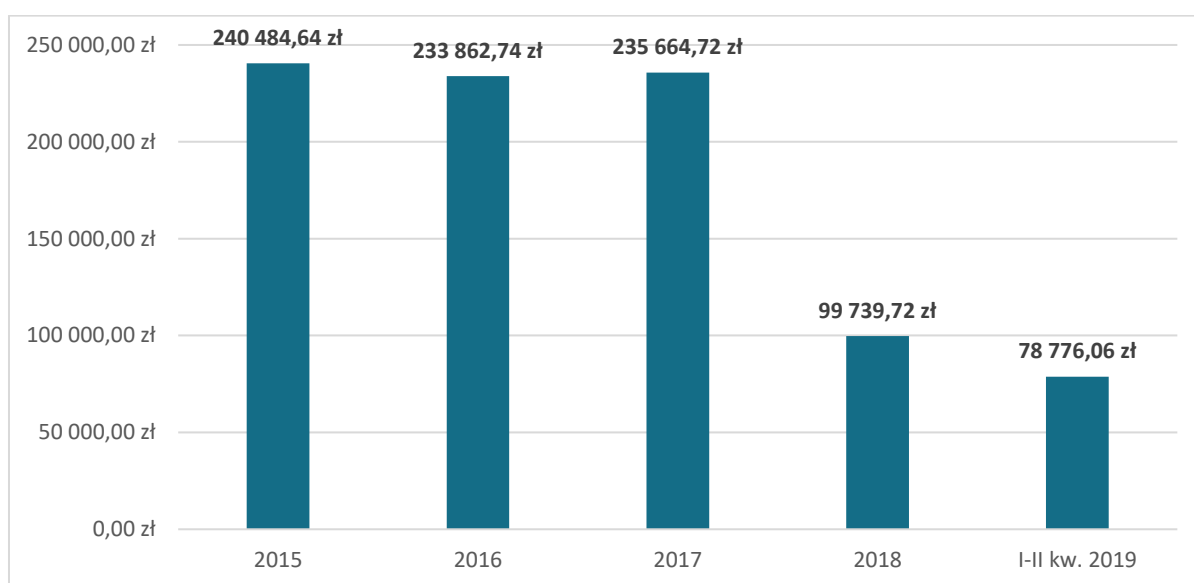
- in 2015 – 211 samples (78 samples from premises and 133 samples from vacuum trucks)
- in 2016 – 240 samples (61 samples from premises and 179 samples from vacuum trucks)
- in 2017 – 233 samples (68 samples from premises and 165 samples from vacuum trucks)
- in 2018 – 117 samples (35 samples from premises and 82 samples from vacuum trucks)

- between Q1 and 2 2019 – 55 samples (19 samples from premises and 36 samples from vacuum trucks)

– **total for 2015-2019 – 856** (261 samples from premises and 595 samples from vacuum trucks) where transgressions were found and contractual penalties were charged.

In the case of irregularities in waste water supplied with vacuum trucks, the basis for payment is the bookkeeping note for a given truck.

In the case of irregularities in waste water discharged from premises, the basis for payment is the bookkeeping note for a given period of violating the waste water discharge conditions. For this reason, in the case of premises it is quite difficult and time-consuming to calculate the total amount of penalties for the discussed transgressions. Thus, the value provided below is the amount of total receipts on the basis of bookkeeping notes issued in a given calendar year.



[zł – PLN; I-II kw 2019 – Q1 and Q2 2019]

Table No. 19. The amount of contractual penalties charged by MPWiK for excessive discharges of industrial waste water between 2015 and 2019

It should be noticed that the amounts given in the figure above include penalties for waste water samples collected from vacuum trucks. Detailed receipts from penalties paid by liquid waste suppliers are as follows:

- in 2015 – PLN 9,820.00;
- in 2016 – PLN 14,695.00;
- in 2017 – PLN 11,572.12;
- in 2018 – PLN 5,586.07;
- between Q1 and 2 of 2019 – PLN 2,031.24.

2.5.4. Transgressions found by Wody Polskie

Wody Polskie is authorised to impose increased fees if a given entity using water services does not have a suitable water law permit for discharging waste water to waters or ground. In practice, however, the body finds almost no such transgressions. As demonstrated by the data provided by Wody Polskie, in 2018 (i.e. in the first year of Wody Polskie's operations only 2 business entities were identified without a water law permit for the discharge of waste water.

The increased fee was in the first case charged by the catchment area authority in Warsaw (for PLN 1720), and in the second by the catchment area authority in Łowicz (for PLN 560).

Part 3.

Conclusions and recommendations

Part 3

Conclusions and recommendations

Due to the fact that this study covers a number of issues, conclusions are grouped by domain, on the one hand including general conclusions in the area of law and on other conclusions referring to the system of industrial waste water discharge and treatment in MPWiK's area.

I. Conclusions in the area of law

The current legal status regarding the management of industrial waste water is characterised with the lack of expected coherence. This results mainly from the dispersion of the normative material across various legal acts. The range and the scale of this dispersion is depicted in Appendix No. 2 to this Report, which presents the major legal acts related to industrial waste water management in the form of a diagram.

Moreover, the subject matter of industrial waste water is extremely complex from the technological perspective. As a result, this enables various legal classifications of liquid waste produced by industrial plants.

Consequently, a number of industrial waste water producers may not have sufficient knowledge in this regard. The currently available publications on industrial waste water are mainly professional literature, usually addressed to specialists in the field. It should be noticed, however, that the structure of entities delivering industrial waste water is extremely varied. As far as large industrial plants and retail chains have the support of specialists in the course of the implementation of their projects, entities running food service services may often be unaware of the requirements of the broadly understood environmental law and regulations regarding public waste water conveyance. An additional legal chaos could have been caused by the recent change of bodies responsible for water law permits.

To recapitulate, it should be stated that although regulations regarding the manner of managing industrial waste water are quite rigorous, general awareness in this regard is relatively low. This, in turn, may lead to a number of violations of the industrial waste water management rules. It is also impossible to exclude purposeful violations, aimed at reducing the costs associated with the professional management of industrial waste water. It seems that the current regulations referring to the supervision of industrial waste water producers do not fully meet their purpose. For instance, the Water Law does not provide for increased fees for the discharge of industrial waste water containing substances that are particularly harmful to the aquatic environment to the sewage systems of other entities in the case of the lack of a suitable water law permit or violation of its terms. As a result, authorities in charge of water management (Wody Polskie) and bodies of the Inspection of Environmental Protection have limited options of holding industrial waste water producers accountable for such violations. In practice, the supervision of the industrial waste water discharge system lies mainly on water and sewage management companies, and partially on commune bodies dealing with inspecting and keeping records of septic tanks.

It seems that the current legal status does not provide sufficient legal mechanism to fully secure the industrial waste water discharge system. This refers in particular to water and sewage management companies with a large scale of operations such as MPWiK.

II. Conclusions referring to the system of industrial waste water discharge and treatment in MPWiK's area

The system of industrial waste water discharge and treatment from the area covered by MPWiK's operations is one of the largest in Poland. It should be mentioned that the system largely exceeds the administrative borders of Warsaw. Moreover, waste water from the area served by the Company are treated in four plants, i.e. "Czajka", "Dębe", "Południe" and "Pruszków".

As at 30 June 2019 MPWiK's records contained 277 premises directly transferring industrial waste water to the Company's sewage system. As emphasised in the description of the applied research methodology, the number of entities discharging industrial waste water to the MPWiK sewage system is not equal to the number of premises from which this type of waste water is discharged. This results from the fact that some businesses operate two or more premises (e.g. petrol corporations).

It is not surprising that 87% of the premises from which industrial waste water is discharged to the MPWiK sewage system are located in the area of Warsaw (240 facilities).

As demonstrated by the qualitative analysis based on data on the core business of the respective industrial waste water suppliers, the following was found:

- 15 sections out of 21 sections of NACE Rev. 2;
- 39 divisions out of 88 divisions of NACE Rev. 2;
- 70 classes out of 615 classes of NACE Rev. 2.

Thus, the stream of industrial waste water discharged to the MPWiK sewage system is varied. However, the key types of activity involving the generation of industrial waste water include accommodation and food service activities (section I), manufacturing (section C) and wholesale and retail trade; repair of motor vehicles and motorcycles (section G). It should be emphasised that the current structure of entities running industrial operations differs significantly from the 1970s or 1980s. This stems from the fact that large industrial plants have been closed or limited their production. Furthermore, plants which are still in operation have been obligated to adjust to new legal standards related to environmental protection, resulting mainly from the need to adjust Polish law to EU law. As far as the discharge of industrial liquid waste is concerned, it is of a marginal importance. In line with the data from the Waste Management Department of the City of Warsaw, the proportion of industrial waste water in the total amount of liquid waste collected between 2015 and 2019 from the area of Warsaw was around 1%. Even with an assumption that the above data

are underestimated, it seems that the actual share of industrial waste does not exceed several percent in the total amount of liquid waste.

Finally, it is worth mentioning inspection measures taken by MPWiK in relation to entities discharging industrial waste water to the Company's sewage system. As demonstrated by MPWiK's data, between 2015 and 2019 the Company carried out 839 on-site inspections and tested more than 3085 of waste water samples. Importantly, inspection measures contribute to the identification of excessive waste water discharges and constitute a basis for contractual penalties. It is also noteworthy that despite the constant number of inspections in recent years, the cumulative amount of contractual penalties charged decreased significantly in 2018. This may be due to, i.a., the penalties imposed by the Company meeting their preventive function.

In conclusion it also should be stated that State administration bodies maintain separate supervision over entities discharging industrial waste water to the sewage system and the environment. A very low number of transgressions found by Wody Polskie in 2018 may be a sign of sound water management. However, according to the authors of this report, the small percentage of transgressions among entities discharging waste water to the environment should be approached with caution. This area surely requires further analysis beyond the scope of this study.

III. Overall assessment of the system and recommendations

According to the authors of this study, MPWiK has well-grounded knowledge on the industrial waste water discharge and treatment in the area of its operations. The Company has information on premises from which industrial waste water is discharged to the sewage systems owned by MPWiK, especially waste water containing substances particularly harmful to the aquatic environment.

Furthermore, MPWiK carries out regular inspections of waste water quality. In the case of any irregularities in the quality of the supplied waste water, MPWiK consistently imposes contractual penalties. It is noteworthy that MPWiK's good practices in the area of industrial waste water management included intensified quality inspections of industrial waste water in the event of a failure of the municipal waste water collector sewer which is used to collect a mix of domestic and industrial waste water.

MPWiK's good practices also cover the continuous development of the waste water treatment system, and the extension of the combined sewage system collectors. For instance, the currently implemented activities envisage an increase in the capacity of the combined sewage system under the project "Water supply and waste water management in Warsaw – Phase VI". The project will involve, i.e., the construction of the Lindego Bis transit and retention collector sewer with a length of 4 km and diameter of 3.2 m, which will reduce the load on the sewage system and limit uncontrolled municipal waste water discharges to the environment. Due to this project 2 other collector sewers will be created (upgraded) with a total length of almost 15 km (Wiślany, Mokotowski Bis), and a retention tank will be built in the area of the Czajka waste water treatment plant and a central management system of the combined system. The above project will make it possible to

reduce the amount of industrial waste water discharged in municipal waste water which, in the event of storm overflows, reaches the environment. The current regulations permit storm overflows (a maximum of 10 times a year), but attempts to limit them should be identified as MPWiK's good practice.

However, it is difficult to eliminate the risk related to industrial waste water associated consisting in a large amount of harmful substances reaching the waste water treatment plant. For example, such an event took place in 2013, when the Czajka waste water treatment plant received large amounts of mercury, exceeding the permissible levels up to 10 times. When the substance was detected, the waste water sludge incineration plant was closed for a month, due to which the sludge needed to be managed by specialised external entities with suitable licences for the disposal of this type of waste. Quite importantly, the source of the contamination was mercury from the former Róża Luksemburg plant. The Province Environmental Protection Inspectorate (WIOŚ) suspects that the incident was caused by the rain water washing out the residues of mercury found in the plant's area. Similar hazards can occur in virtually every city with post-industrial areas.

Unfortunately, the only realistic measure to eliminate these risks in the future is the adoption of consistent remediation (reclamation) procedures, which is a lengthy process and requires huge financial outlays. Thus, as a measure aimed at reducing this kind of risk, the City of Warsaw and MPWiK could consider the analysis of the register of pre-existing land pollution, which is kept, pursuant to Article 101c of POŚ, by the General Director for Environmental Protection for potential identification of locations which may be sources of uncontrolled pollution with industrial waste water.

Some doubts are also raised by the actual stream of industrial liquid waste transported to septage receiving stations with vacuum trucks. As demonstrated by the data of the Waste Management Department and declarations of MPWiK specialists from the Waste Water Technology Division, some entities dealing with the collection and transport of liquid waste may violate regulations referring to introducing this type of liquid waste to septage receiving stations. The most common transgressions involve mixing domestic liquid waste (waste water) with industrial liquid waste (waste water). This practice may be motivated by an intention to dilute industrial waste in order to reduce the pollutant load.

Although the declared proportion of industrial liquid waste is around 1% of the overall stream of liquid waste, the data may be underestimated. Furthermore, taking into consideration the hazard caused by leaking septic tanks containing industrial liquid waste, it seems justified to cover it with increased supervision of the City of Warsaw. Currently the tanks register is kept by the city districts, with no coordination or ongoing data exchange between them. However, it seems necessary to standardise the register. Moreover, the register should be kept in such a way as to enable the identification of the type of liquid waste generated in specific real properties (i.e. to make it possible to separate properties generating domestic and industrial waste water). Such measures should make it easier to identify facilities posing threat to the environment or life and health of people living near them.

MPWiK's good practice in this regard includes the introduction of an automatic system for the quality control of waste water to the septage receiving stations operated by the Company. Namely, the pH and the electric conductance of all delivered liquid waste is monitored online. In the case of considerable diversions from the admissible values of the two parameters, the waste water is not accepted at the receiving station (the cut-off valve is blocking the discharge of the liquid waste).

From the legal perspective, it should be stated that the system of contractual penalties currently applied by MPWiK for excessive discharges of waste water may be questioned by some business entities or the regulatory body. In principle, the prices and rates for public waste water conveyance should be approved by the regulatory body (currently it is the Director of RZGW). There are judgments of the Supreme Court which allowed such contractual penalties, but these were passed before the reform of the Water Law and before establishing a regulatory body in the public water supply and public waste water conveyance market. It should be emphasised that the Authors of this study are definitely in favour of sanctions imposed by water and sewage management companies on waste water suppliers exceeding the permissible levels of pollutants in waste water. The experience of a number of water and sewage management companies confirms that the discussed additional charges (penalties) perform preventive and compensatory functions. However, it should be emphasised that the model applied by MPWiK based on contractual penalties is questionable from the legal perspective.

Proceeding to the assessment of MPWiK's relations with industrial plants, it should be stated that currently the Company's policy in terms of industrial waste water management may not be completely transparent for the recipients of such services. Although the Company provides comprehensive information on connections to the water supply or sewage network for domestic waste water, there is no information on the procedure of connecting industrial waste water suppliers. However, it should be mentioned that some water and sewage management companies provide detailed data in this area for industrial waste water suppliers. Thus, according to the authors, MPWiK should undertake informational measures addressed to industrial waste water suppliers which will make them aware of their duties associated with discharging this type of waste water to the MPWiK sewage system.

However, it is recommended to provide an opportunity to exchange experiences between MPWiK and industrial waste water suppliers in terms of its pre-treatment in order to improve the quality of the discharged waste water. In this context, it seems justified to consider the gradual automation of industrial waste water quality control directly at suppliers' premises by introducing ongoing waste water monitoring systems based on an (online) remote solution. The options under consideration include attempts to implement pilots of such solutions in a group of waste water suppliers in order to assess the costs of its operation and revenues from the charged contractual penalties for exceeding permissible concentrations of pollutants in the discharged waste water.

Finally, it seems necessary to establish ongoing cooperation with bodies having in place separate tools for supervising industrial waste water suppliers, in particular WIOŚ and Wody Polskie. Such

cooperation can contribute to determining the potential group of entities violating environmental requirements related to industrial waste water discharge. Furthermore, it is also recommended to establish closer cooperation with the Waste Management Department for a better identification of septic tanks in which industrial liquid waste is collected.

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No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
Sekcja [Section] C - PRZETWÓRSTWO PRZEMYSŁOWE		C - MANUFACTURING			60
1	Dział [Division] 10 - PRODUKCJA ARTYKUŁÓW SPOŻYWCZYCH	10 MANUFACTURE OF FOOD PRODUCTS		9	
1	10, 71, Z. Produkcja pieczywa; produkcja świeżych wyrobów ciastkarskich i ciastek	10.71 Manufacture of bread; manufacture of fresh pastry goods and cakes	5		
2	10, 72, Z. Produkcja sucharów i herbatników; produkcja konserwowanych wyrobów ciastkarskich i ciastek	10.72 Manufacture of rusks and biscuits; manufacture of preserved pastry goods and cakes	1		
3	10, 82, Z. Produkcja kakao, czekolady i wyrobów cukierniczych	10.82 Manufacture of cocoa, chocolate and sugar confectionery	1		
4	10, 13, Z. Produkcja wyrobów z mięsa, włączając wyroby z mięsa drobiowego	10.13 Production of meat and poultry meat products	1		
5	10, 39, Z. Pozostałe przetwarzanie i konserwowanie owoców i warzyw	10.39 Other processing and preserving of fruit and vegetables	1		
2	Dział 11 - PRODUKCJA NAPOJÓW	11 - MANUFACTURE OF BEVERAGES		1	
6	11, 07, Z. Produkcja napojów bezalkoholowych; produkcja wód mineralnych i pozostałych wód butelkowanych	11.07 Manufacture of soft drinks; production of mineral waters and other bottled waters	1		
3	Dział 17 - PRODUKCJA PAPIERU I WYROBÓW Z PAPIERU	17 - MANUFACTURE OF PAPER AND PAPER PRODUCTS		2	
7	17, 21, Z. Produkcja papieru falistego i tektury falistej oraz opakowań z papieru i tektury	17.21 Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	2		
4	Dział 18 - POLIGRAFIA I REPRODUKCJA ZAPISANYCH NOŚNIKÓW INFORMACJI	18 - PRINTING AND REPRODUCTION OF RECORDED MEDIA		2	
8	18, 12, Z. Pozostałe drukowanie	18.12 Other printing	2		
5	Dział 19 - WYTWARZANIE I PRZETWARZANIE KOKSU I PRODUKTÓW RAFINACJI ROPY NAFTOWEJ	19 - MANUFACTURE OF COKE AND REFINED PETROLEUM PRODUCTS		12	
9	19, 20, Z. Wytwarzanie i przetwarzanie produktów rafinacji ropy naftowej	19.2 Manufacture of refined petroleum products	12		

¹⁰² The total number of items in the particular sections, divisions and classes corresponds to the number of premises and not the number of entities with which agreements for waste water discharge have been signed. This is due to the fact that MPWiK often serves more than one facility belonging to a single entity (e.g. petrol stations, restaurant chains).

No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
6	Dział 20 - PRODUKCJA CHEMIKALIÓW I WYROBÓW CHEMICZNYCH	20 - MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS		6	
10	20, 41, Z. Mydła i detergentów, środków myjących i czyszczących	20.41 Manufacture of soap and detergents, cleaning and polishing preparations	2		
11	20, 42, Z. Produkcja wyrobów kosmetycznych i toaletowych	20.42 Manufacture of perfumes and toilet preparations	3		
12	20, 59, Z. Produkcja pozostałych wyrobów chemicznych, gdzie indziej	20.59 Manufacture of other chemical products n.e.c.	1		
7	Dział 21 - PRODUKCJA PODSTAWOWYCH SUBSTANCJI FARMACEUTYCZNYCH ORAZ LEKÓW I POZOSTAŁYCH WYROBÓW FARMACEUTYCZNYCH	21 - MANUFACTURE OF BASIC PHARMACEUTICAL PRODUCTS AND PHARMACEUTICAL PREPARATIONS		9	
13	21, 10, Z. Produkcja podstawowych substancji farmaceutycznych	21.10 Manufacture of basic pharmaceutical products	1		
14	21, 20, Z. Produkcja leków i pozostałych wyrobów farmaceutycznych	21.20 Manufacture of pharmaceutical preparations	8		
8	Dział 23 - PRODUKCJA WYROBÓW Z POZOSTAŁYCH MINERALNYCH SUROWCÓW NIEMETALICZNYCH	23 - MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS		1	
15	23, 61, Z. Produkcja wyrobów budowlanych z betonu	Manufacture of concrete products for construction purposes	1		
9	Dział 24 - PRODUKCJA METALI	24 - MANUFACTURE OF BASIC METALS		1	
16	24, 10, Z. Produkcja surówki, żelazostopów, żeliwa i stali oraz wyrobów hutniczych	24.10 Manufacture of basic iron and steel and of ferro-alloys	1		
10	Dział 25 - PRODUKCJA METALOWYCH WYROBÓW GOTOWYCH, Z WYŁĄCZENIEM MASZYN I URZĄDZEŃ	25 - MANUFACTURE OF FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT		3	
17	25, 40, Z. Produkcja broni i amunicji	25.40 Manufacture of weapons and ammunition	1		
18	25, 62, Z. Obróbka mechaniczna elementów metalowych	25.62 Machining	1		
19	25, 73, Z. Produkcja narzędzi	25.73 Manufacture of tools	1		
11	Dział 26 - PRODUKCJA KOMPUTERÓW, WYROBÓW ELEKTRONICZNYCH I OPTYCZNYCH	26 - MANUFACTURE OF COMPUTER, ELECTRONIC AND OPTICAL PRODUCTS		2	
20	26, 51, Z. Produkcja instrumentów i przyrządów pomiarowych, kontrolnych i nawigacyjnych	26.51 Manufacture of instruments and appliances for measuring, testing and navigation	1		

No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
21	26, 70, Z, Produkcja instrumentów optycznych i sprzętu fotograficznego	26.70 Manufacture of optical instruments and photographic equipment	1		
12	Dział 27 - PRODUKCJA URZĄDZEŃ ELEKTRYCZNYCH	27 - MANUFACTURE OF ELECTRICAL EQUIPMENT		1	
22	27, 20, Z, Produkcja baterii i akumulatorów	27.20 Manufacture of batteries and accumulators	1		
13	Dział 28 - PRODUKCJA MASZYN I URZĄDZEŃ, GDZIE INDZIEJ NIESKLASYFIKOWANA	28 - MANUFACTURE OF MACHINERY AND EQUIPMENT N.E.C.		3	
23	28, 13, Z, Produkcja pozostałych pomp i sprężarek	28.13 Manufacture of other pumps and compressors	1		
24	28, 29, Z, Produkcja pozostałych maszyn ogólnego przeznaczenia, gdzie indziej niesklasyfikowana	28.29 Manufacture of other general-purpose machinery n.e.c.	1		
25	28, 41, Z, Produkcja maszyn do obróbki metalu	28.41 Manufacture of metal forming machinery	1		
14	Dział 30 - PRODUKCJA POZOSTAŁEGO SPRZĘTU TRANSPORTOWEGO	30 - MANUFACTURE OF OTHER TRANSPORT EQUIPMENT		1	
26	30, 30, Z, Produkcja statków powietrznych, statków kosmicznych i podobnych	30.30 Manufacture of air and spacecraft and related machinery	1		
15	Dział 32 - Pozostała produkcja wyrobów	32 - OTHER MANUFACTURING		5	
27	32, 11, Z, Produkcja monet	32.11 Striking of coins	1		
28	32, 13, Z, Produkcja sztucznej biżuterii i wyrobów podobnych	32.13 Manufacture of imitation jewellery and related articles	1		
29	32, 50, Z, Produkcja urządzeń, instrumentów oraz wyrobów medycznych, włączając dentystyczne	32.50 Manufacture of medical and dental instruments and supplies	2		
30	32, 99, Z, Produkcja pozostałych wyrobów, gdzie indziej niesklasyfikowana	32.99 Other manufacturing n.e.c.	1		
16	Dział 33 - NAPRAWA, KONSERWACJA I INSTALOWANIE MASZYN I URZĄDZEŃ	33 - REPAIR AND INSTALLATION OF MACHINERY AND EQUIPMENT		2	
31	33, 12, Z, Naprawa i konserwacja maszyn	33.12 Repair of machinery	1		
32	33, 16, Z, Naprawa i konserwacja statków powietrznych i statków kosmicznych	33.16 Repair and maintenance of aircraft and spacecraft	1		
	Sekcja D - WYTWARZANIE I ZAOPATRYWANIE W ENERGIĘ ELEKTRYCZNĄ, GAZ, PARĘ WODNĄ, GORĄCĄ WODĘ I POWIETRZE DO UKŁADÓW KLIMATYZACYJNYCH	D - ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY			6
17	Dział 351 - Wytwarzanie, przesyłanie, dystrybucja i handel energią elektryczną	35 - Electricity, gas, steam and air conditioning supply		6	
33	35, 13, Z, Dystrybucja energii elektrycznej	35.13 Distribution of electricity	1		

No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
34	35, 30, Z. Wytwarzanie i zaopatrywanie w parę wodną, gorącą wodę i powietrze do układów klimatyzacyjnych	35.30 Steam and air conditioning supply	5		
	Sekcja E - DOSTAWA WODY; GOSPODAROWANIE ŚCIEKAMI I ODPADAMI ORAZ DZIAŁALNOŚĆ ZWIĄZANA Z REKULTYWACJĄ	E - WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES			7
18	Dział 36 - POBÓR, UZDATNIANIE I DOSTARCZANIE WODY	36 - WATER COLLECTION, TREATMENT AND SUPPLY		6	
35	36, 00, Z. Pobór, uzdatnianie i dostarczanie wody	36.00 Water collection, treatment and supply	6		
19	Dział 38 - DZIAŁALNOŚĆ ZWIĄZANA ZE ZBIERANIEM, PRZETWARZANIEM I UNIESZKODLIWIANIEM ODPADÓW; ODZYSK SUROWCÓW	38 - WASTE COLLECTION, TREATMENT AND DISPOSAL ACTIVITIES; MATERIALS RECOVERY		1	
36	38, 12, Z. Zbieranie odpadów niebezpiecznych	38.12 Collection of hazardous waste	1		
	Sekcja F - BUDOWNICTWO	F - CONSTRUCTION			2
20	Dział 41 - ROBOTY BUDOWLANE ZWIĄZANE ZE WZNOSENIEM BUDYNKÓW	41 - CONSTRUCTION OF BUILDINGS		2	
37	41, 20, Z. Roboty budowlane związane ze wznoszeniem budynków mieszkalnych i niemieszkalnych	41.20 Construction of residential and non-residential buildings	2		
	Sekcja G - HANDEL HURTOWY I DETALICZNY; NAPRAWA POJAZDÓW SAMOCHODOWYCH, WŁĄCZAJĄC MOTOCYKLE	G - WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES			57
21	Dział 45 - HANDEL HURTOWY I DETALICZNY POJAZDAMI SAMOCHODOWYMI; NAPRAWA POJAZDÓW SAMOCHODOWYCH	45 - WHOLESALE AND RETAIL TRADE AND REPAIR OF MOTOR VEHICLES AND MOTORCYCLES		36	
38	45, 11, Z. Sprzedaż hurtowa i detaliczna samochodów osobowych i furgonetek	45.11 Sale of cars and light motor vehicles	25		
39	45, 20, Z. Konserwacja i naprawa pojazdów samochodowych, z wyłączeniem motocykli	45.20 Maintenance and repair of motor vehicles	11		
22	Dział 46 - HANDEL HURTOWY, Z WYŁĄCZENIEM HANDLU POJAZDAMI SAMOCHODOWYMI	46 - WHOLESALE TRADE, EXCEPT OF MOTOR VEHICLES AND MOTORCYCLES		3	
40	46, 34, A, Sprzedaż hurtowa napojów alkoholowych	46.34 Wholesale of beverages	2		
41	46, 90, Z, Sprzedaz hurtowa niewyspecjalizowana	46.90 Non-specialised wholesale trade	1		
23	Dział 47 - HANDEL DETALICZNY, Z WYŁĄCZENIEM HANDLU DETALICZNEGO POJAZDAMI SAMOCHODOWYMI	47 - RETAIL TRADE, EXCEPT OF MOTOR VEHICLES AND MOTORCYCLES		18	

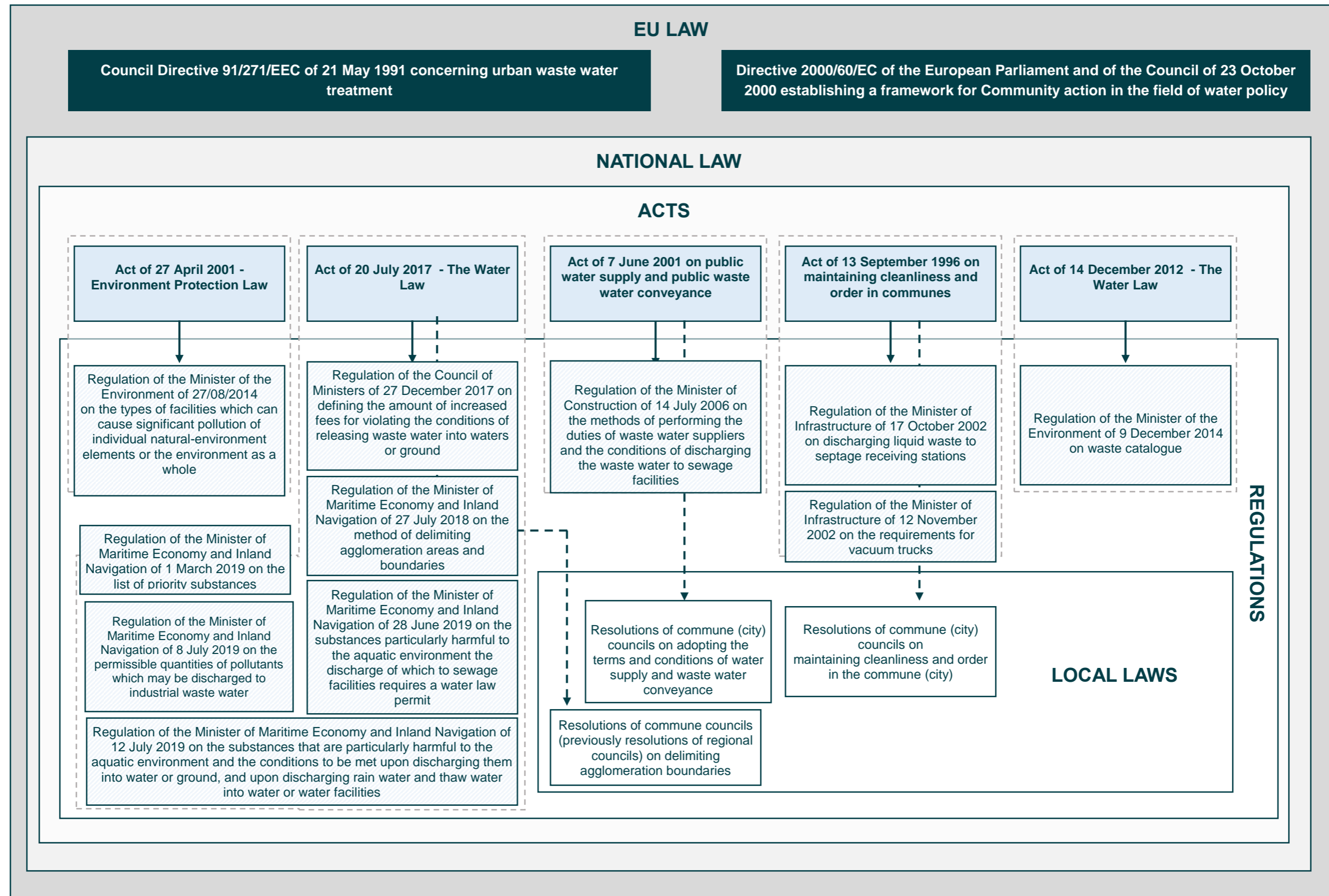
No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
42	47, 11, Z. Sprzedaż detaliczna prowadzona w niewyspecjalizowanych sklepach z przewagą żywności, napojów i wyrobów tytoniowych	47.11 Retail sale in non-specialised stores with food, beverages or tobacco predominating	6		
43	47, 19, Z. Pozostała sprzedaż detaliczna prowadzona w niewyspecjalizowanych sklepach	47.19 Other retail sale in non-specialised stores	1		
44	47, 29, Z. Sprzedaż detaliczna pozostałej żywności prowadzona w wyspecjalizowanych sklepach	47.29 Other retail sale of food in specialised stores	4		
45	47, 30, Z. Sprzedaż detaliczna paliw do pojazdów silnikowych na stacjach paliw	47.30 Retail sale of automotive fuel in specialised stores	7		
	Sekcja H - TRANSPORT I GOSPODARKA MAGAZYNOWA	H TRANSPORTATION AND STORAGE			16
24	Dział 49 - TRANSPORT LĄDOWY ORAZ TRANSPORT RUROCIĄGOWY	49 - LAND TRANSPORT AND TRANSPORT VIA PIPELINES		13	
46	49, 31, Z. Transport lądowy pasażerski, miejski i podmiejski	49.31 Urban and suburban passenger land transport	11		
47	49, 39, Z. Pozostały transport lądowy pasażerski, gdzie indziej niesklasyfikowany	49.39 Other passenger land transport n.e.c.	2		
25	Dział 52 - MAGAZYNOWANIE I DZIAŁALNOŚĆ USŁUGOWA WSPOMAGAJĄCA TRANSPORT	52 - WAREHOUSING AND SUPPORT ACTIVITIES FOR TRANSPORTATION		2	
48	52, 10, b. Magazynowanie i przechowywanie pozostałych towarów	52.10 Warehousing and storage	1		
49	52, 23, Z. Działalność usługowa wspomagająca transport lotniczy, zarządzanie portami lotniczymi, usługi gaszenia pożarów i ochrony przeciwpożarowej w portach lotniczych	52.23 Service activities incidental to air transportation	1		
26	Dział 53 - DZIAŁALNOŚĆ POCZTOWA I KURIERSKA	53 - POSTAL AND COURIER ACTIVITIES		1	
50	53, 10, Z. Działalność pocztowa objęta obowiązkiem świadczenia usług powszechnych (operatora publicznego)	53.10 Postal activities under universal service obligation	1		
	Sekcja I - DZIAŁALNOŚĆ ZWIĄZANA Z ZAKWATEROWANIEM I USŁUGAMI GASTRONOMICZNYMI	I - ACCOMMODATION AND FOOD SERVICE ACTIVITIES			62
27	Dział 55 - ZAKWATEROWANIE	55 - ACCOMMODATION		38	
51	55, 10, Z. Hotele i podobne obiekty zakwaterowania	55.10 Hotels and similar accommodation	38		
28	Dział 56 - DZIAŁALNOŚĆ USŁUGOWA ZWIĄZANA Z WYŻYWIENIEM	56 - FOOD AND BEVERAGE SERVICE ACTIVITIES		24	
52	56.10.A Restauracje i inne stałe placówki gastronomiczne	56.10 Restaurants and mobile food service activities	23		

No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
53	56, 21, Z. Przygotowywanie i dostarczanie żywności dla odbiorców zewnętrznych (katering)	56.21 Event catering activities	1		
	Sekcja J - INFORMACJA I KOMUNIKACJA	J - INFORMATION AND COMMUNICATION			3
29	Dział 58 - DZIAŁALNOŚĆ WYDAWNICZA	58 - PUBLISHING ACTIVITIES		2	
54	58, 13, Z. Wydawanie gazet	58.13 Publishing of newspapers	1		
55	58.11.Z Wydawanie książek	58.11 Book publishing	1		
30	Dział 59 - DZIAŁALNOŚĆ ZWIĄZANA Z PRODUKCJĄ FILMÓW, NAGRAŃ WIDEO, PROGRAMÓW TELEWIZYJNYCH, NAGRAŃ DŹWIĘKOWYCH I MUZYCZNYCH	59 - MOTION PICTURE, VIDEO AND TELEVISION PROGRAMME PRODUCTION, SOUND RECORDING AND MUSIC PUBLISHING ACTIVITIES		1	
56	59, 14, Z. Działalność związana z projekcją filmów	59.14 Motion picture projection activities	1		
	Sekcja L - DZIAŁALNOŚĆ ZWIĄZANA Z OBSŁUGĄ RYNKU NIERUCHOMOŚCI	L - REAL ESTATE ACTIVITIES			18
31	Dział 68 - DZIAŁALNOŚĆ ZWIĄZANA Z OBSŁUGĄ RYNKU NIERUCHOMOŚCI	68 - REAL ESTATE ACTIVITIES		18	
57	68, 10, Z. Kupno i sprzedaż nieruchomości na własny rachunek	68.10 Buying and selling of own real estate	2		
58	68, 20, Z. Wynajem i zarządzanie nieruchomościami własnymi lub dzierżawionymi	68.20 Rental and operating of own or leased real estate	16		
	Sekcja M - DZIAŁALNOŚĆ PROFESJONALNA, NAUKOWA I TECHNICZNA	M - PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES			18
32	Dział 70 - DZIAŁALNOŚĆ FIRM CENTRALNYCH (HEAD OFFICES); DORADZTWO ZWIĄZANE Z ZARZĄDZANIEM	70 - ACTIVITIES OF HEAD OFFICES; MANAGEMENT CONSULTANCY ACTIVITIES		3	
59	70, 10, Z. Działalność firm centralnych (head offices) i holdingów, z wyłączeniem holdingów finansowych	70.10 Activities of head offices	1		
60	70, 11, Z. Zagospodarowanie i sprzedaż nieruchomości na własny rachunek	No NACE code	1		
61	70, 22, Z. Pozostałe doradztwo w zakresie prowadzenia działalności gospodarczej i zarządzania	70.22 Business and other management consultancy activities	1		
33	Dział 71 - DZIAŁALNOŚĆ W ZAKRESIE ARCHITEKTURY I INŻYNIERII; BADANIA I ANALIZY TECHNICZNE	71 - ARCHITECTURAL AND ENGINEERING ACTIVITIES; TECHNICAL TESTING AND ANALYSIS		1	
62	71, 20, A, Badania i analizy związane z jakością żywności	71.20 Technical testing and analysis	1		

No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
34	Dział 72 - BADANIA NAUKOWE I PRACE ROZWOJOWE	72 - SCIENTIFIC RESEARCH AND DEVELOPMENT		14	
63	72, 11, Z. Badania naukowe i prace rozwojowe w dziedzinie biotechnologii	72.11 Research and experimental development on biotechnology	2		
64	72, 19, Z. Badania naukowe i prace rozwojowe w dziedzinie pozostałych nauk przyrodniczych i technicznych	72.19 Other research and experimental development on natural sciences and engineering	12		
	Sekcja N - DZIAŁALNOŚĆ W ZAKRESIE USŁUG ADMINISTROWANIA I DZIAŁALNOŚĆ WSPIERAJĄCA	N - ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES			2
35	Dział 78 - DZIAŁALNOŚĆ ZWIĄZANA Z ZATRUDNIENIEM	78 - EMPLOYMENT ACTIVITIES		1	
65	78, 10, Z. Działalność związana z wyszukiwaniem miejsc pracy i pozyskiwaniem pracowników	78.10 Activities of employment placement agencies	1		
36	Dział 81 - DZIAŁALNOŚĆ USŁUGOWA ZWIĄZANA Z UTRZYMANIEM PORZĄDKU W BUDYNKACH I ZAGOSPODAROWANIEM TERENÓW ZIELENI	81 - SERVICES TO BUILDINGS AND LANDSCAPE ACTIVITIES		1	
66	81, 29, Z. Pozostałe sprzątanie (wyjaławianie, dezynfekcja i sterylizacja wyrobów medycznych, narzędzi, przyrządów, aparatów, urządzeń medycznych, pościeli, odzieży szpitalnej i medycznej)	81.29 Other cleaning activities	1		
	Sekcja O - ADMINISTRACJA PUBLICZNA I OBRONA NARODOWA; OBOWIĄZKOWE ZABEZPIECZENIA SPOŁECZNE	O - PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY			2
37	Dział 84 - ADMINISTRACJA PUBLICZNA I OBRONA NARODOWA; OBOWIĄZKOWE ZABEZPIECZENIA SPOŁECZNE	84 - PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY		2	
67	84, 13, Z. Kierowanie w zakresie efektywności gospodarowania	84.13 Regulation of and contribution to more efficient operation of businesses	2		
	Sekcja P - EDUKACJA	P - EDUCATION			1
38	Dział 85 - EDUKACJA	85 - EDUCATION		1	
68	85, 59, b, pozostałe pozaszkolne formy edukacji, gdzie indziej niesklasyfikowane	85.59 Other education n.e.c.	1		
	Sekcja R - DZIAŁALNOŚĆ ZWIĄZANA Z KULTURĄ, ROZRYWKĄ I REKREACJĄ	R - ARTS, ENTERTAINMENT AND RECREATION			1
39	Dział 93 - DZIAŁALNOŚĆ SPORTOWA, ROZRYWKOWA I REKREACYJNA	93 - SPORTS ACTIVITIES AND AMUSEMENT AND RECREATION ACTIVITIES		1	
69	93, 11, Z. Działalność obiektów sportowych	93.11 - Operation of sports premises	1		

No.	PKD code of business activity	NACE Rev. 2 code	Number of premises for		
			Class	Division	Section
	Sekcja S - POZOSTAŁA DZIAŁALNOŚĆ USŁUGOWA	S - OTHER SERVICE ACTIVITIES			1
40	Dział 96 - POZOSTAŁA INDYWIDUALNA DZIAŁALNOŚĆ USŁUGOWA	96 - OTHER PERSONAL SERVICE ACTIVITIES		1	
70	96, 01, Z. Pranie i czyszczenie wyrobów włókienniczych i futrzarskich	96.01 - Washing and (dry-) cleaning of textile and fur products	1		
		TOTAL	256	256	256

Appendix No. 2. List of the major EU and domestic legal acts which may have applications due to the management of waste water from industrial plants



Appendix No. 3. Information on the quantities and quality of liquid waste transported to the main septage receiving stations connected to MPWiK, with information on the number of vacuum trucks served by the respective stations between 2017 and 2018

Table No. 1

Quantities of waste water and the number of vacuum trucks in monthly terms in 2017												
Septage receiving station	ZPD 190/192 Syta St. – data compiled by the authors		ZDE in Jachranka – data compiled by the author		MPO 63 Jagiellońska St.		ABIS 6 Odlewnicza St.		PWik in Ząbki Piłsudskiego St.		PWK Legionowo Wł. Sikorskiego St.	
	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]
January	14,559	1,252	13,141	1,003	2,016	863	13,003	no data	56,360	4,177	18,196	1,772
February	13,978	1,175	13,259	1,067	2,249	814	12,895	no data	51,260	4,077	17,905	1,738
March	19,050	1,631	17,046	1,476	2,551	913	14,252	no data	64,410	4,622	21,941	2,082
April	17,264	1,457	15,831	1,278	2,729	909	13,529	no data	64,400	4,842	21,362	2,001
May	17,637	1,504	16,749	1,305	3,137	1,117	13,524	no data	67,700	4,915	23,165	2,109
June	17,637	1,517	16,508	1,298	3,455	1,245	13,480	no data	62,920	4,626	23,207	2,138
July	15,123	1,252	15,825	1,246	3,145	1,170	13,751	no data	63,670	4,831	21,448	2,049
August	15,385	1,307	16,605	1,390	3,157	1,162	13,914	no data	59,180	4,351	21,903	2,042
September	20,138	1,736	15,353	1,269	3,033	1,030	13,814	no data	65,010	4,511	22,648	2,082
October	22,196	1,936	15,972	1,378	4,990	1,009	14,635	no data	68,230	4,519	22,378	2,050
November	19,973	1,733	13,869	1,208	3,109	1,019	13,820	no data	60,920	4,261	21,272	1,969
December	20,023	1,724	16,681	1,461	2,691	850	14,354	no data	70,680	4,650	23,875	2,118
Average	17,747	1,519	15,570	1,282	3,022	1,008	13,748	no data	68,895	4,532	21,608	2,013

Table No. 2

Waste water quality – average monthly values for 2017												
Septage receiving station	ZPD 190/192 Syta St. – data compiled by the authors		ZDE in Jachranka – data compiled by the authors		MPO 63 Jagiellońska St. – data compiled by the authors		ABIS 6 Odlewnicza St. – data compiled by the authors		PWik in Ząbki Piłsudskiego St.		PWK Legionowo Wł. Sikorskiego St.	
	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]
January	1,208	581	2,486	1,242	9,280	4,950	248	54	no data	no data	no data	no data
February	1,479	783	2,136	792	8,530	4,310	347	65	no data	no data	no data	no data
March	1,089	482	1,872	704	4,090	2,720	293	94	no data	no data	no data	no data
April	1,788	865	1,946	857	1,390	744	351	103	no data	no data	no data	no data
May	996	442	2,076	787	4,090	2,920	357	78	no data	no data	no data	no data
June	1,347	798	1,749	1,131	2,300	816	294	38	no data	no data	no data	no data

July	843	438	1,742	713	1,450	662	415	51	no data	no data	no data	no data
August	873	429	1,216	621	1,440	680	244	78	no data	no data	no data	no data
September	990	586	1,954	1,179	1,450	1,230	203	53	no data	no data	no data	no data
October	1,255	612	1,846	882	6,380	2,670	334	101	no data	no data	no data	no data
November	1,027	587	1,960	981	6,920	3,290	151	58	no data	no data	no data	no data
December	952	552	1,258	827	1,720	1,230	289	54	no data	no data	no data	no data
Average	1,154	596	1,853	893	4,087	2,185	294	69	no data	no data	no data	no data

Table No. 3

Quantities of waste water and the number of vacuum trucks in monthly terms

Septage receiving station	ZPD 190/192 Syta St. – data compiled by the authors 2018		ZDE in Jachranka – data compiled by the authors 2018		MPO 63 Jagiellońska St. – data compiled by the authors 2018		ABIS 6 Odlewnicza St. – data compiled by the authors 2018		PWik in Ząbki Piłsudskiego St.		PWK Legionowo Wł. Sikorskiego St.	
	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]	waste water quantity [m3/month]	number of tanks [units/month]
January	16,549	1,500	13,823	1,179	3,027	no data	14,664	no data	no data	no data	no data	no data
February	17,336	1,508	13,772	1,145	2,397	no data	14,046	no data	no data	no data	no data	no data
March	19,263	1,691	18,108	1,494	3,148	no data	15,667	no data	no data	no data	no data	no data
April	16,422	1,514	15,675	1,309	3,068	no data	14,512	no data	no data	no data	no data	no data
May	18,836	1,681	18,149	1,464	2,975	no data	14,744	no data	no data	no data	no data	no data
June	19,110	1,701	17,991	1,467	3,735	no data	15,482	no data	no data	no data	no data	no data
July	16,357	1,508	17,895	1,507	3,800	no data	14,635	no data	no data	no data	no data	no data
August	18,531	1,730	19,879	1,606	3,657	no data	14,687	no data	no data	no data	no data	no data
September	16,930	1,553	16,084	1,314	3,001	no data	14,623	no data	no data	no data	no data	no data
October	19,502	1,749	17,082	1,416	3,667	no data	16,041	no data	no data	no data	no data	no data
November	17,414	1,630	13,524	1,056	2,816	no data	14,146	no data	no data	no data	no data	no data
December	18,826	1,772	12,421	991	2,796	no data	14,566	no data	no data	no data	no data	no data
Average	17,923	1,628	16,200	1,329	3,174	no data	14,818	no data	no data	no data	no data	no data

Table No. 4

Waste water quality – average monthly values for 2018

Septage receiving station	ZPD 190/192 Syta St. – data compiled by the authors 2018		ZDE in Jachranka – data compiled by the authors 2018		MPO 63 Jagiellońska St. – data compiled by the authors 2018		ABIS 6 Odlewnicza St. – data compiled by the authors 2018		PWik in Ząbki Piłsudskiego St.		PWK Legionowo Wł. Sikorskiego St.	
	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]	COD [mgO2/l]	Suspended solids [mg/l]
January	906	582	2,193	986	9,200	3,213	299	63	no data	no data	no data	no data

February	986	721	2,383	1,236	711	428	196	82	no data	no data	no data	no data
March	1,632	478	1,799	827	1,480	568	405	88	no data	no data	no data	no data
April	1,388	677	2,777	1,360	6,000	3,730	192	50	no data	no data	no data	no data
May	685	404	1,685	806	1,490	570	361	106	no data	no data	no data	no data
June	1,345	574	1,860	720	1,250	412	339	69	no data	no data	no data	no data
July	1,486	663	1,671	806	2,150	796	147	80	no data	no data	no data	no data
August	1,178	516	1,483	847	895	310	110	55	no data	no data	no data	no data
September	1,247	541	2,399	921	4,980	1,810	164	53	no data	no data	no data	no data
October	1,053	434	2,374	1,007	2,310	1,020	197	64	no data	no data	no data	no data
November	1,163	521	1,579	734	5,640	1,860	194	76	no data	no data	no data	no data
December	1,692	548	2,198	771	11,200	5,570	276	64	no data	no data	no data	no data
Average	1,230	555	2,033	918	3,942	1,691	240	71	no data	no data	no data	no data