

WASTE MANAGEMENT FOR INLAND NAVIGATION ON THE DANUBE



Title of Report: Final waste management concept SK

Work Package 3: Elaborating Ship Waste Management Concepts

Activity 3.2: Waste management concept for the Upper Danube section

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0 LIST OF ABBREVIATIONS

WANDA	Waste management for inland navigation on the Danube
EU	European Union
EC	European Commission
AGN	European Agreement on Main Inland Waterways of International Importance
DC	Danube Commission
CCNR	Central Commission for the Navigation of the Rhine
SC	Sava Commission
FASRB	Framework Agreement on the Sava River Basin
IWT	Inland waterway transport
OECD	Organisation for Economic Co-operation and Development
GDP	Gross Domestic Product
SPaP	Slovak Shipping and Ports, Joint Stock company

1 SUMMARY

The main objective of the concept of ship waste management within the needs of inland navigation in Slovakia is the development of a system that enables providers of ship transportation to use comfortable system of waste collection, delivery and disposal without a risk posing to continuity and safety of own vessel operation, continuity and safety of navigation on waterways, and environmental elements.

The Danube River the second largest river in Europe (with the length of 2 845 km) flows from Austria into the territory of Slovakia at the mouth of the Morava river at the Devín Castle and leaves at the mouth of the Ipeľ river near the village Chľaba. The Slovak section of the Danube belongs to the upper part of the middle flow. The Danube in our territory forms the border with Austria in the length of 7,5 kilometres, in the section of 22,5 kilometres it flows through the Slovak territory and then in the length of 142 km it creates border with Hungary.

The Danube waterway with an international navigation regime and three public ports Bratislava, Komárno and Štúrovo is the basis of water transport infrastructure in Slovakia within the Concept of Water Transport Development of the Slovak Republic. The Danube forms a part of a major European transport corridors marked with Corridor No. VII - the Danube, in the AGN Agreement, marked E 80. The section of Gabčíkovo Water Work meets the parameters of the category VII.

Slovak Republic issued 60 licenses to do business in the freight and personal public water transport as on national as well as international waterways in the period 2001 – 2010. There are mainly corporate entities operating in the freight transport and only three personal entities operating in personal transport on national waterways. Nowadays operates 44 companies in public water transport.

In recent years the number of cargo vessels in inland water transport in the Slovak Republic has been around 230 and the number of ships for passenger transport has been about 15. The Slovak Shipping and Ports, Joint Stock company (SPaP) is the majority water transport carrier and operator on the Danube in the Slovak Republic. It provides by its own vessels only cargo services. Its portfolio is more than two hundred vessels of various types and provides $\frac{3}{4}$ of the total Slovak IWT.

Organizing the ship borne waste collection and disposal is a very simple process regarding the fact that the Slovak section of the Danube River is relatively short.

Collection and handling of ship borne waste shall be in accordance with the waste management programme of the Slovak Republic and relevant locality. Furthermore, it is important that handling of waste will be carried out by organizations which were granted permission or authorization for this type of activity. This activity shall be carried out in accordance with the Waste Act. In addition, the process is linked with recording, reporting and monitoring the amount of generated waste and it is subject to control of observing the provisions in accordance with the legal regulations.

As an only example of waste management from ships in ports in Slovak territory we present a system of collection and disposal of waste carried out by the Slovak Shipping and Ports, Joint Stock Company, which is in compliance with the legislation of the Slovak Republic.

It operates a utility station, pontoon P-65 a facility providing services to vessels for waste disposal arising in connection with the operation of vessels. This is mainly drainage water from the vessel's engine room, bilge water, sewage, used oil and various hazardous waste (oily rags, oil filters, absorbents, etc.).

Utility Station is located on the left bank of the main course of the Danube River in Bratislava at 1865.7 kilometre.

In the Slovak Republic the annual production of bilge water was in the range of 800-900 m³. In year 2009 there was 673 m³ of bilge water disposed to SPaP.

In Slovakia the annual production of waste oil from ships in the last years was around 45 tonnes (disposal of old ships). In 2009 vessels of SPaP produced 23 m³ of used oil. This amount was produced on whole river Danube.

Regarding the international character of the Danube waterway, which is part of European Transport Corridors in the concept of ship waste management from inland waterway transport (treaty between the Ministry of Environment and Ministry of Transport, Construction and Regional Development of the SR, May 2010), an integrated approach of solving of ship waste management on entire Danube path, which requires a higher level of organizing the waste management process than it is currently implemented in Slovakia is enforced.

This concept shall provide protection of all environmental elements corresponding at least to the current EU legislation with all attributes of regulation and control.

The main objective within the legal framework for water management, which shall be transposed to the concept of ship waste management, is to implement the following measures (in accordance with the defined environmental objective for surface water - §5, Article 2 of the Water Act 364/2004):

- a) To prevent deterioration of surface water bodies quality and quantity,
- b) To protect, improvement and recovery of surface water bodies with the goal to achieve good quality and quantity of surface waters by December 22, 2015,
- c) To protect and improvement of artificial and heavily modified surface water bodies with the goal to achieve good ecological potential and good chemical status by December 22, 2015,
- d) Gradual reduction of pollution caused by priority substances and cessation or phasing out emissions, discharges and losses of priority hazardous substances.

The main objective within the legal framework for waste management is to handle waste in accordance with the purpose of waste management (§3, of the Act 223/2001 on wastes as amended by later regulations) – hierarchy of the waste management principles:

- a) To prevent origination of waste and limit its generation

- b) To recover waste through recycling or other processes enabling recovery of secondary raw materials, if there is no possible or effective option according to letter a) ,
- c) To use waste as a source of energy, if there is no possible or effective way according to letter a) or b)
- d) To dispose of waste in a way that does not pose a health risk to humans and does not cause damage to environment over the extent defined in accordance with legislation, if there is no possible or effective way according to letters a), b) or c).

Based on the experiences from the Rhine River and in particular with regard to the Recommendations of the Danube Commission, it is necessary from the view of realisation of concept aims to reflect on mobile collecting and treating servis (vessel) in combination with sufficiently dense network of stationary facilities for collection and further handling of ship waste in the ports along the Danube River.

Therefore, stationary facility for collection and further handling of ship waste in Bratislava port (pontoon P-65), after accomplishing the required technical level and capacity expansion necessary for vessels of all Slovak ship operators creates the realisation basis for the conception of ship waste management from the inland waterways of Slovak Republic

After an international treaty has been signed, it is necessary to reckon with the expansion of foreign operators and an adequate degree of involvement of the SR to the mobile collection and treating service (vessel) in the intentions of this treaty.

2 AIMS OF DOCUMENT/AIMS OF THE NATIONAL SHIP WASTE MANAGEMENT CONCEPTS

The objective of the paper is to develop coordinated conceptual approach to management of waste from inland navigation based on the analysis of conditions determining the process of generation and handling of waste from inland navigation (mainly bilge water) with respect not only to the needs related to development of inland navigation but also to protection of individual environmental elements with emphasis placed on water quality and protection. Therefore, it takes fully into account the requirements of national legal and administrative framework and the current state of ship waste logistics and it is directed towards identification of existing limitations of this solution, development of the proposal of measures as well as international cooperation and harmonization of this approach for all Danube countries.

The main objective of the concept of handling of waste from vessels within the needs of inland navigation in Slovakia is the development of a system that enables providers of ship transportation to use comfortable system of waste collection, delivery and disposal without a risk posing to continuity and safety of own vessel operation, continuity and safety of navigation on waterways, and environmental elements.

Conceptual issues related to the ship waste management in Slovakia, integrated system of ship waste management on the entire Danube River as well as implementation of waste management pilot action were repetitively discussed in details with the representatives of all

stakeholders. The developed conceptual approach to waste management on the Danube River was finally discussed with the representatives of the Ministry of Environment of the Slovak Republic, Ministry of Transport, Construction and Regional Development of the Slovak Republic, Slovak Environmental Inspection and Slovak experts participating in the WANDA Project on May 24, 2010 at WRI Bratislava.

The representatives of the Ministry of Environment of the Slovak Republic, Ministry of Transport, Construction and Regional Development of the Slovak Republic as well as other participants have expressed support for the WANDA Project and implementation of the pilot action on the Upper Danube. They presented the following opinions on the discussed issues:

- it is possible to carry out the pilot action in Slovakia only in accordance with the current European legislation and national legal regulations, and therefore according to the Alternative 3 (only for waste from the Slovak vessels)
- the concept of ship waste management in Slovakia as a part of the concept of ship waste management on the whole Danube shall be based on and unified at a higher quality level (by combination of mobile collecting and treating vessel with the network of stationary facilities), also providing that the current national legislation is superseded by international treaty which takes precedence over the legislation in accordance with the Constitution of the Slovak Republic.

3 GENERAL INFORMATION

Slovakia is a landlocked country in the Central Europe with a population of over five million and an area of about 49,000 square kilometres.

The Slovak economy is considered as an advanced economy. Slovak economy transformed from a centrally planned economy to a market-driven economy.

Slovakia has recently been characterized by sustained high economic growth. In 2006, Slovakia achieved the highest growth of GDP (8,49 %) among the members of OECD. The annual GDP growth in 2007 was 10,42 % and 6,4 % in 2008. After several years of exceptionally high growth, GDP with rising unemployment, wage growth is expected to decrease this year and slow considerably (-5,0 % expected for 2009).

Slovakia's GDP comes mainly from the tertiary (services) sector; the country's industry also plays an important role within its economy. The main industry sectors are car manufacturing and electrical engineering.

Bratislava's geographical position in Central Europe has made Bratislava a crossroad for international trade traffic. Various ancient trade routes, such as the Amber Road and the Danube waterway have crossed the territory of current Bratislava.

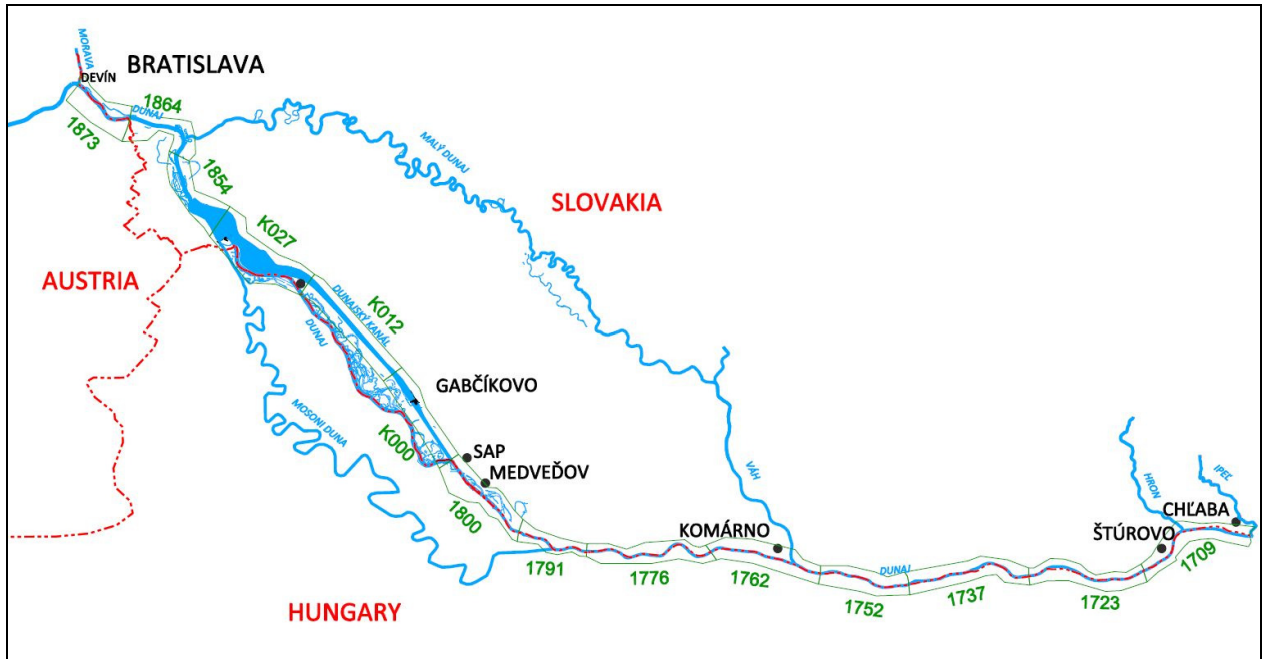
The Bratislava Port is one of two international river ports in Slovakia. The port connects Bratislava to international shipping, especially the interconnection from the North Sea to the Black Sea via the Rhine-Main-Danube Canal. Additionally, tourist lines operate from Bratislava's passenger port, including routes to Devín, Vienna and elsewhere.

The Slovak landscape is noted primarily for its mountainous nature, with the Carpathian Mountains extending across most of the northern part of the country. The high peaks of the Tatra mountains are amongst these mountain ranges.

The Danube River has always played a crucial role in the SR. The second largest river in Europe (with the length of 2 845 kilometres) flows from Austria into the territory of Slovakia at the mouth of the Morava river at the Devín Castle and leaves at the mouth of the Ipel' river near the village Chľaba. The Slovak section of the Danube belongs to the upper part of the middle flow. The Danube in our territory forms the border with Austria in the length of 7,5 kilometres, in the section of 22,5 kilometres it flows through the Slovak territory and then in the length of 142 kilometres it creates border with Hungary. The Danube is also a recipient of all Slovak rivers except the Poprad and Dunajec rivers and their tributaries from the SR which flow into the Baltic Sea.

The longest and largest left-bank branch of the Danube which branches off from the main stream below Bratislava is the Little Danube. It flows in the channel to the village Most near Bratislava, where it continues in the original riverbed 30 to 50 metres wide, with many meanders and typical floodplain forests in their surroundings. Over 150 kilometres long flow bypassing Žitný Island (island formed by the Danube and the Small Danube) is the largest river island in Europe. Žitný Island lies in the territory of the Slovak part of the Danube in the length of 84 kilometres, wide from 15 to 30 kilometres and it covers an area of over 1 600 square kilometres from Bratislava to Komárno. Its territory is flat in nature with low altitude. The other major tributaries of the Danube are Váh which joins at Komárno; Hron joins at Štúrovo and Ipel' in the easternmost part of the territory. All tributaries of the Danube flow more or less in the north-south direction, while they monitor fault lines.

Figure 1 Electronic navigation map of Danube River



Resource: Slovak Water Management Enterprise, state company

4 SHIPPING PROCEDURES

Slovak Republic issued 60 licenses to do business in the freight and personal public water transport as on national as well as international waterways in the period 2001 – 2010. There are mainly corporate entities operating in the freight transport and only three personal entities operating in personal transport on national waterways. Nowadays operates 44 companies in public water transport.

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4.1 TYPES, AMOUNTS AND FLOWS OF HANDLED GOODS

The amounts and types of waste generated in relation to inland navigation are closely connected with the volume and type of transported goods. Based on the values shown in the following tables it can be stated that the amount of transported goods as well as outputs expressed in ton-kilometres have not been changed significantly for several years and after some simplification they can be considered stable.

The table 1 contains the statistical data for all providers of the inland waterway transport regardless of their registration country of ship on the territory of the Slovak Republic.

Tab.1: Selected indicators for all providers of the inland waterway transport on territory of the SR

indicator	2005*	2006*	2007	2008
transport of goods (tous.tons)	2 350	2 252	8 013	8 371
performances in ton km (mill.)	88	106	1004	1 101
* without transit for foreign operators inland waterway transport				

The table 2 contains the statistical data for all providers of the inland waterway transport registered in the Slovak Republic regardless of their main activity.

Tab.2: Selected indicators of goods transport

indicator	2005	2006	2007	2008
transport of goods - total (thous.tons)	1 526	1 713	1 806	1 767
performances in ton km (mill.)	680	936	843	979
of which enterprises with transport as prevailing activity				
transport of goods - total (thous.tons)	1 431	1 260	1 307	1470
performances in ton km (mill.)	674	632	722	914
avarege worked distance (km)	471	501,6	552,4	
of which transport enterprises with the number of employees 20 and more				
transport of goods - total (thous.tons)	1 408	1 244	1 276	1355
performances in ton km (mill.)	655	623	684	795
avarege worked distance (km)	465,2	500,8	536,1	587

Tab.3: Selected indicators of passenger transport

indicator	2005	2006	2007	2008
transport of passengers in thous.	133,9	111	121,9	121,5
performances in mill.passenger-km	4,2	2,6	4,3	3,3
of which enterprises with transport as prevailing activity				
transport of passengers in thous.	111,1	78,4	95,2	94
performances in mill.passenger-km	3,9	2,4	2,8	3,1
avarege worked distance (km)	35,1	30,6	29,4	
of which transport enterprises with the number of employees 20 and more				
transport of passengers in thous.	99,8	78,1	95,1	94
☐ national transport	60,3	60,9	70	63,2
☐ international transport	39,5	17,2	25,1	30,8
performances in mill.passenger-km	3,8	2,4	2,7	3,1
avarege worked distance (km)	38,1	30,7	28,4	33
num.of lines in regular and irregular transport of passengers	18	17	16	16

Transport in third countries is an international transport performed by ships registered in the Slovak Republic between two places (port of loading and port of unloading are in two different countries).

The chapter transportation of goods and persons by navigable waterways within the territory of the Slovak Republic is included in water transport. Data on recreational transportation of passengers by the lakes or dams are excluded.

Tab.4: Transport of goods in inland waterway public transport by individual types for enterprises with the number of employees 20 and more the state of ships in inland waterway transport

Indicator	2005			2006			2007		
	total	import	export	total	import	export	total	import	export
inland waterway transport of goods in total	1 068 182	22 410	1 045 518	962 560	18 133	944 427	1 027 324	27 237	1 000 087
☒ cereals	58 439	3 730	54 455	37 649	2 127	35 522	31 000	3 260	27 380
☒ textiles, tex.articles, man-made fibres, other raw materials of plant and animal origin	5 655	0	5 655	0	0	0	0	0	0
☒sugar, beverages, stimulants and spices, other foodstuffs, animal food and food waste	10 639	1 000	9 639	0	0	0	0	0	0
☒ oil seeds and oleaginous fruit and fat	15 500	0	15 500	0	0	0	0	0	0
☒ coal, lignite, coke	9 231	0	9 231	34 041	0	34 041	5 736	0	5 736
☒ fuel derivatives,gaseous hydrocarbons liquid and compressed, non-fuel derivatives	55 272	0	55 272	97 885	0	97 885	96 768	0	96 768
☒ iron ore, iron and steel waste and blast furnace dust	615 626	0	615 626	511 947	0	511 947	558 969	5 266	553 703
☒ non-ferous ores and waste	1 232	1 232	0	0	0	0	1 569	0	1 569
☒ pig iron, crude steel, ferro-alloys, rolledsteel, bars, sections, tracks, steel sheet, tubes, pipes, non-ferrous metals	59 435	1 037	58 398	58 095	7 403	50 692	162 690	3 151	159 539
☒ cement, lime and other manif. build. Materials	0	0	0	0	0	0	14 829	14 829	0

☒ sand, gravel, clay and slag, slat, sulphur, iron pyrites, plasters, other stone earths and minerals	23 868	15 291	8 577	22 713	8 603	14 110	0	0	0
☒ natural and chemical fertilisers	206 290	0	206 290	197 342	0	197 342	150 832	0	150 832
☒ paper pulp and waste paper	0	0	0	0	0	0	0	0	0
☒ machinery, transport equipment, tractors, agricult. And other machinery, engines	3 091	0	3 091	1 928	0	1 928	120	0	120
☒ other manufactured articles	3 904	120	3 784	960	0	960	4 811	371	4 440
transit and international cross-trade	339 910	X	X	281 394	x	x	248 712	x	X

Resource tab. 1-4: Statistical Office of the Slovak Republic: Yearbook of Transport, post and Telecommunication of the SR 2007-2009.

4.2 WATER WAY INFRASTRUCTURE COMPONENTS

The Danube waterway with an international navigation regime and three public ports Bratislava, Komárno and Štúrovo is the basis of water transport infrastructure in Slovakia within the Concept of Water Transport Development of the Slovak Republic. The Danube forms a part of a major European transport corridors marked with Corridor No. VII - the Danube, in the AGN Agreement, marked E 80. The section of Gabčíkovo Water Work meets the parameters of the category VII.

4.2.1 Ports

Public ports with the statute of international public ports in the Slovak Republic play a crucial role in the water transport infrastructure.

In accordance with the European Agreement on Main Inland Waterways of International Importance - AGN (Annex III c), facilities for waste treatment, accumulated on the vessels have to be available in ports of international importance.

The area of the Bratislava port includes two docks and both banks of the Danube River in the stretch from river km 1 871.350 up to 1 862.000. This part includes manipulation, service, repair and docking positions of vessels as well as conditions, a way of their anchoring, tying and permissibility of docking at the port regarding purpose specification of vessel. As already mentioned, there is pontoon P-65 for collection of bilge water and sewage, for refuelling small

and large vessels with its own propulsion machinery and household waste collection in the port.

Komárno public port area includes left bank of the Danube River up to the left border of shipway in the stretch from river km 1 770.000 to 1 762.000, both banks of the Váh River up to the railway bridge, eastern and western river bank with a specified area. In the port there are handling and parking stages which are strictly defined according to operate regulations.

Štúrovo public port is located on the left bank of the Danube River up to the left border of shipway in the stretch from river km 1 718,800 to 1 718,300 with a specified area. Also in this port there are handling and parking stages which are strictly defined according to operate regulations.

In view of optimizing the operation of state property in conditions of commercial environment, Public ports joint-stock company was established in 2008 in accordance with the conceptual policy of the Slovak Republic in this field. The company was founded by the Slovak Republic and it is managed by the Ministry of Transport, Construction and Regional Development of the Slovak Republic. The scope of the company activities is as follows:

- development of construction plans and construction of public ports;
- provide operation, registration, maintenance and repair of public port structures and facilities;
- creation of conditions for development of combined transport
- collection of public port fees and charges.

4.2.2 Handling Stages

The handling, service, repair and docking positions of ships as well as conditions and ways of anchoring and admissibility of docking in every port are defined in accordance with the Operational Instructions for Public Ports on the Danube River.

According to available information there are no handling stages outside these ports.

4.2.3 Locks

The locks of the Gabčíkovo Dam and Hydropower Plant System are among the largest ones in Europe. They allow ships to pass the water level height difference between channels in the range from 16 to 23.3 m. Every lock is 34 m in width, 275 m in length and 32 m in depth (by-passes $2 \times 610 \text{ m}^3 \cdot \text{s}^{-1}$ and weir operation $2 \times 1200 \text{ m}^3 \cdot \text{s}^{-1}$).

4.2.4 Others

The Gabčíkovo hydro-power plant consists of four double-blocks including 8 hydro-units. The hydro-units comprise the vertical Kaplan turbines including turbine rotors with a diameter of 9.3 m to which the generators are connected on a common axis. The installed output of the hydro-unit is 90 MW.

5 NATIONAL LEGAL FRAMEWORKS

The following text is a legal base for the field of waste and water management, which is related to the creation of oily and greasy ship borne waste and oily and greasy ship borne waste management.

5.1.1 Waste Management

Waste caused by inland navigation can be divided into two types: ship borne waste and waste caused by cargo, which includes mainly washing water and slops.

The first type comprises mostly oily and greasy ship borne waste, which arises from direct connection with technical ship operation and other ship borne waste, which arises from the human beings and their activities, e.g.: domestic sewage, domestic refuse, sewage sludge, other hazardous waste such as paint, varnish, resolvents and the like.

Oily and greasy ship borne waste, including used oil, bilge water, other oily and greasy waste such as used grease, used filters, used rags, bundles and packaging of such waste is a subject of the research of the WANDA project.

The basic legal regulation (transposition from the European law) for the area of the waste management is the Act No. 223/2001 on wastes as amended. According to the Article 19 of this Act the waste holder is obliged:

- Categorise wastes according to the Waste Catalogue
- Accumulate wastes sorted by waste types and secure the same from deterioration, theft or other undesirable release
- Separately accumulate hazardous wastes by their types, indicate the same in a specified way and handle the same in compliance with the Act and special regulations
- Recover wastes in its own operation; offer the waste not utilised in that way for recovery to another person
- Provide for waste disposal if providing for its recovery is impossible or inefficient
- Hand over waste only to a person entitled to handle waste by the Act if not providing oneself for its recovery or disposal
- Keep and retain records of the waste types and quantities handled, and of their recovery and disposal
- Report stipulated data from the records to the respective state administration body in waste management

For definition of terms, Waste Collection shall mean waste accumulation, sorting or mixing for the purpose of its shipment, while Waste Accumulation shall mean temporary storage of waste proceeding for its further handling and Waste Sorting shall mean separation of waste by types or separation of waste components that may be classified as separate waste type after separation.

According to the Article 7 of the Act on Wastes an approval of state administration bodies in waste management is required to

- Operate an installation for waste disposal,
- Operate an installation for waste recovery
- Operate an installation for waste collection in case it is not part of recovery or disposal equipment
- Accumulate Waste by the waste holder without any previous sorting, where – with a view to the following way of its recovery or disposal – sorting or separated accumulation is not possible or efficient
- Recover or dispose waste by mobile installations

According to § 21, operators of mobile installations are obliged, no later than three days in advance notify in writing the District Environmental Office, in which territorial district they will the waste will be recovered or disposed, the place where they will be engaged in the activity; type, category and estimated quantity of waste to be recovered or disposed and estimated time of activity.

For recovery or disposal of waste oils (waste oils shall be considered all mineral or industrial lubricant oils that have become unusable for the purpose for which they were initially intended, in particular used lubricant oils of combustion engines, transmission oils, mineral lubrication oils, turbine oils and hydraulic oils) an authorization by the Ministry granted to an entrepreneur to conduct activities is required - (Authorization granted by the Ministry shall mean granting consent to an entrepreneur)

The following provisions of the Act on Wastes are in force (Article 42) for the process of waste oils handling:

- Recovery of waste oils shall mean a process allowing the formation of basic oils from waste oils, in particular by the removal of contaminants, oxidation products and admixtures contained in those oils. Basic oils may not contain hazardous waste.
- It is prohibited to
 - Discharge waste oils into surface water, ground water and sewerage
 - Deposit or discharge waste oils and any discharge of residues from waste oil processing into the soil.
- Where technical, economic and organisation conditions allow, the waste oil holder shall be obliged to preferentially provide for their recovery by regeneration; where that is impossible, the holder shall be obliged to provide for their energy recovery in compliance with special regulations. Where their recovery is not possible either, the waste oil holder shall be obliged to provide for their disposal.
- Anyone providing for the collection, reclamation or another way of recovery or disposal of waste oils, shall be obliged to
 - Keep and retain record of waste oils and of their recovered quantities from the waste collected in the Slovak Republic

- Report stipulated data from the records to the Recycling Fund and the competent district authority on a quarterly basis.
- Waste oils may be collected, shipped, recovered and disposed of only separately from other waste types.
- The holder of waste oils shall be obliged to hand them in for reclamation and for another method of recovery or for disposal only to an authorisation holder
- Cross-border transport of waste from another Member State to the Slovak Republic, cross-border transport of waste from the Slovak Republic to another Member State, import of waste from a state other than Member State to the Slovak Republic, export of waste from the Slovak Republic to a state other than Member State and transit of waste (hereinafter “cross-border movement of waste”) are determined by specific regulations (Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste, Commission Regulation (EC) No 1418/2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) No 1013/2006 of the European Parliament and of the Council to certain countries to which the OECD Decision on the control of trans-boundary movements of wastes does not apply (Official Journal of the European Union L 316, 4.12.2007).
- Cross-border transport of waste from another Member State to the Slovak Republic and import of waste from another State than Member State to the Slovak Republic for the purpose of disposal are forbidden unless otherwise stated in the international treaty binding for the Slovak Republic.
- Hazardous waste which was generated in the Slovak Republic will be preferentially recovered in the Slovak Republic in line with the programme of the Slovak Republic (§ 4 section 1). If recovery of such waste is not possible in the Slovak Republic, it will be preferentially recovered in one of the Member States.

Import, export and transit of waste are provided by Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste. As an EU Member State, we are obliged to have this regulation adopted. This Regulation is focused on the need to restrict and control the movement of waste. It establishes procedures and control regimes for the shipment of waste, depending on the origin, destination and route of the shipment, the type of waste shipped and the type of treatment to be applied to the waste at its destination.

This Regulation shall apply to shipments of waste between Member States, within the Community or with transit through third countries; imported into the Community from third countries; exported from the Community to third countries; in transit through the Community, on the way from and to third countries.

Under the Article 1 of this regulation the waste generated on board vehicles, trains, aeroplanes and ships shall be excluded from the scope of this Regulation, until such waste is offloaded in order to be recovered or disposed. This clearly indicates that ship waste can be delivered for

the purpose of evaluation or disposal in the ports of another state only in the regime determined by this regulation.

It determines the conditions when the ship waste is subject to the procedure of prior written notification or general information requirements (Article 18) or certain simplified procedures (bilateral agreements according Article 30).

On one hand the regulation provides a space for the implementation of necessary steps which should be taken to ensure that, in accordance with Directive 2006/12/EC and other Community legislation on waste, waste shipped within the Community and waste imported into the Community is managed, throughout the period of shipment and including recovery or disposal in the country of destination, without endangering human health and without using processes or methods which could harm the environment.

On the other hand it considerably makes more difficult the disposal of waste generated in relation to inland water transport. Therefore it would be suitable to work out a separate regime for this waste (as it is allowed by waste framework directive) which enables flexible disposal during the whole navigation route (also in the territory of another state) and at the same time it provides the respective protection for the environment and human health.

Overview of relevant legislations

Legislation	Legal base	Area of application
Act 223/2001 Coll. on waste	Directive 2006/12/EC on waste	Waste management
Act 529/2002 Coll. on packaging	Directive 94/62/EC on waste	Packaging and Packaging Waste
Decree of the Ministry of Environment of the Slovak Republic No. 283/2001 Coll. on Implementing Certain Provisions of the Act on Wastes	Directive 2006/12/EC on waste	Waste management
Decree of the Ministry of Environment of the Slovak Republic No. 284/2001 that sets the waste catalogue	Decision 2000/532 establishing a list of wastes and a list of hazardous waste	Waste management Waste classification

5.1.2 Water Management

The Slovak “Water Act” in Article 19 regulates the conditions of navigation:

- Water use for navigation may not hazard the quality or health safety of waters, human safety and safety of constructions, recreational purposes nor disturb the natural environment. Discharge to waters of waste waters other than domestic waste waters and dumping into waters all kinds of waste originating in vessels and remains of carried cargos, except of material dredged from these waters, is prohibited.
- Operator of a vessel may discharge domestic waste waters only if the vessel has necessary equipment enabling purification of domestic waste waters and its due operation is ensured. Such purification equipment must attain at least 90 % effectivity in parameters of five-days biochemical oxygen demand and total suspended solids.
- If operation of a vessel results in production of domestic waste water or other type of waste water that cannot be discharged into waters, the vessel operator shall equip the vessel with device retaining them and preventing their release. The obligation to equip the vessel with device ensuring retention and preventing their release shall also apply with regard to dangerous substances. The vessel operator must keep records on volumes and disposal of these waters and on dangerous substances.

Overview of relevant legislations

Legislation	Legal base	Area of application
Act 364/2004 Coll. on waters	Directive 2000/60/EC	Surface and ground water and waste water, inland waterway transport
Government Regulation No. 269/2010 Coll., establishing Qualitative Targets for Surface Waters and Limit Values of Pollution Indicators of Wastewater and Special Waters.	Directive 2000/60/EC	Surface and ground water and waste water
Government Regulation No. 617/2004 Coll., setting up sensitive areas and vulnerable zones	Directive 91/271/EEC Directive 91/676/EEC	Surface and ground water and waste water,

5.1.3 Inland Navigation

The book on waste and other dangerous material delivery must be kept on the vessels with its own propulsion system, floating machines and floating devices with inbuilt reservoirs for waste water with the exception of small vessels according to the Article 28, paragraph 2 of the Act 338/2000 Coll. on Inland Navigation.

Safety rules on the operation of inland waterway vessels in the Slovak Republic issued by the Decree of the Ministry of Transport, Posts and Telecommunications of the SR No 1740/M-2001 following the Article 22, paragraph 7 of this Act determine specific duties of water protection and waste handling:

- Avoid and limit the generation of liquid and solid wastes on the deck of the vessel
- Discharge only treated waste water. Discharge other waste water and any other waste into waterway is forbidden. These must be delivered on the places designed for this purpose depending on the conditions and usage of vessel. Confirmation on waste delivery is written into check book by the collection officer.
- Provide separated waste collection on the vessel according to the content as well as collection of draining water in engine rooms

Overview of relevant legislations

Legislation	Legal base	Area of application
Act 338/2000 Coll. on inland navigation	Directive 96/35/EC, 96/50/EC, 96/75/EC, 2005/33/EC, 2000/18/EC, 2005/44/EC, 2006/103/EC 2006/87 EC	Inland waterway transport
Regulation of the Government of the Slovak Republic No. 193/2009 Coll., on Technical and Operational Requirements for Inland Waterway Vessels	Directive 2006/87 EC	technical requirements for inland waterway vessels
Decree of the Ministry of Transport, Posts and Telecommunications of the SR No. 22/2000 Coll., determining details on the classification of inland waterways		classification of waterways

5.1.4 Environment

Legislation	Area of application
Act 17/1992 Coll. on environment	Environment
Act No. 543/2002 Coll. on Nature and Landscape Protection	Protection on Nature and Landscape
Act No. 525/2003 Coll. of the Legal Codes on State Administration of the Environment	Environment

5.2 REGULATIONS FOR INLAND VESSELS

5.2.1 Regulations for inland vessels according to Water Right

The Slovak “Water Act” in Article 19 regulates the conditions of navigation:

- Waters may be used for navigation and extracted in necessary volumes for vessel operation without a permit or approval from a state water administration authority.
- Navigation of diesel-motor vessels is prohibited on surface waters located within protective zones of water-supply resources, on water reservoirs designated for intensive fish farming and on exposed groundwaters. The provisions shall not apply to vessels used officially by the manager of major water courses, armed forces, police force, armed security service, fire brigades, state navigation authority;
- To supply vessels with fuel or substances necessary for their operation out of ports is prohibited if fuel volume in each separate case exceeds 50 litres, except when supply is done using vessel traffic service.
- If protection of health and human safety, protection of water and aquatic ecosystems quality, protection of hydraulic constructions and facilities requires so, the state water administration authority may modify, limit, or prohibit water use for navigation.

5.2.2 Regulations for inland vessels according to Navigation Right

The book on waste and other dangerous material delivery must be kept on the vessels with its own propulsion system, floating machines and floating devices with inbuilt reservoirs for waste water with the exception of small vessels according to the Article 28, paragraph 2 of the Act 338/2000 Coll. on Inland Navigation.

Safety rules on the operation of inland waterway vessels in the Slovak Republic issued by the Decree of the Ministry of Transport, Posts and Telecommunications 1740/M-2001 following the Article No. 22, paragraph 7 of this Act determine specific duties of water protection and waste handling:

- Avoid and limit the generation of liquid and solid wastes on the deck of the vessel
- Discharge only treated waste water. Discharge other waste water and any other waste into waterway is forbidden. These must be delivered on the places designed for this purpose depending on the conditions and usage of vessel. Confirmation on waste delivery is written into check book by the collection officer.
- Provide separated waste collection on the vessel according to the content as well as collection of draining water in engine rooms

5.2.3 Regulations for inland vessels according to Waste Management Right

According to the Article 18, paragraph 3 of the Act 223/2001 on Waste it is forbidden:

- Dispose waste
 - Releasing into a water body except seas/oceans (D6)
 - Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.) (D4)
 - Releasing into seas/oceans including sea-bed insertion (D7)
- Burn polychlorinated biphenyls or used polychlorinated biphenyls on the vessels
- Discharge waste oils into surface water, ground water and sewage (Article 42)
- Deposit or discharge waste oils and any discharge of residues from waste oil processing into the soil.

6 WASTE RELATED PROCEDURES

6.1 TYPES, AMOUNTS AND FLOWS OF SHIP WASTE

Waste caused by inland navigation can be divided into two types: ship borne waste and waste caused by cargo, which includes mainly washing water and slops.

The first type comprises mostly oily and greasy ship borne waste, which arises from direct connection with technical ship operation and other ship borne waste, which arises from the human beings and their activities, e.g.: domestic sewage, domestic refuse, sewage sludge, other hazardous waste such as paint, varnish, solvents and the like.

Oily and greasy ship borne waste, including used oil, bilge water, other oily and greasy waste such as used grease, used filters, used rags, bundles and packaging of such waste is a subject of the research of the WANDA project.

According to the European Waste Catalogue (Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1 (a) of Directive Council 75/442/EEC on waste and Council Decision 94/904/EC Establishing a list of hazardous waste pursuant to Article 1 (4) of Council Directive 91/689/EEC on hazardous waste) are ship wastes defined as follows:

The different types of waste in the list are fully defined by the six-digit code for the waste and the respective two-digit and four-digit chapter headings. This implies that the following steps should be taken to identify a waste in the list.

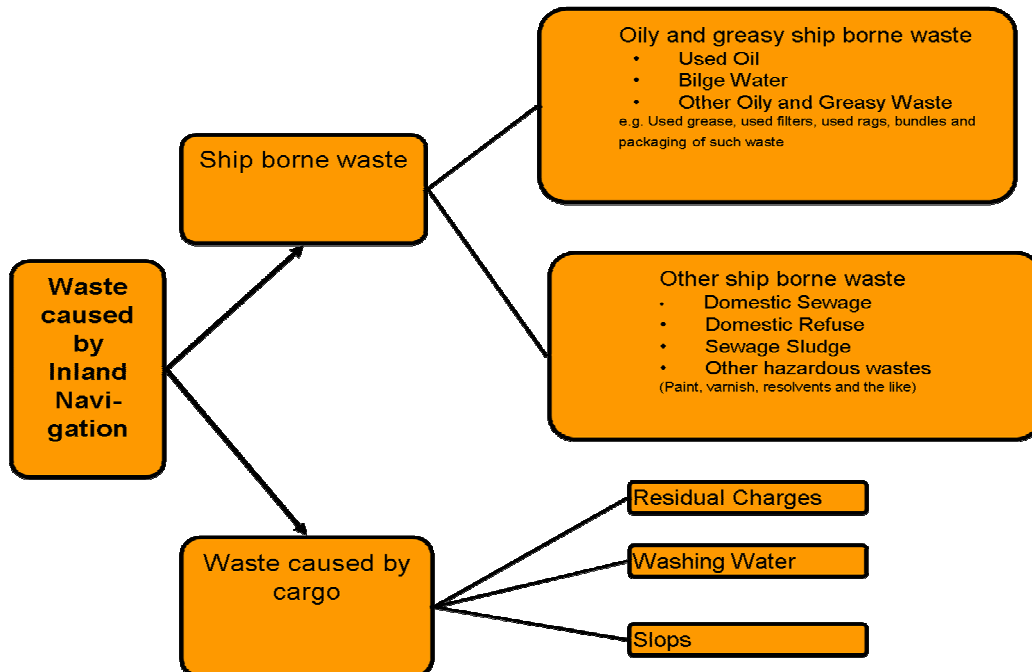


Figure 1: Waste caused by Inland Navigation (based on CCNR, 1996; edited by via donau, 2009)

They belong to the two-digit chapter headings:

13 Oil wastes (except edible oils, 05 and 12)

15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified

16 Wastes not otherwise specified in the list

19 Wastes from waste treatment facilities, 20 Municipal wastes and similar commercial, industrial and institutional wastes including separately collected fractions They belong to the four-digit chapter headings

13 04 Bilge oils

15 01 Packaging

15 02 Absorbents, filter materials, wiping cloths and protective clothing

19 08 Wastes from waste water treatment plants not otherwise specified

20 03 Other municipal wastes

defined as the following types:

13 04 01* Bilge oils from inland navigation

15 01 10* Packaging containing residues of or contaminated by dangerous substances 15 02 02* Absorbents, filter materials, wiping cloths, protective clothing contaminated by dangerous substances

15 02 03 Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02

16 10 01* aqueous liquid wastes containing dangerous substances (bilge water) 19 08 05 Sludges from treatment of urban waste water

In Slovak republic the annual production of bilge water was in the range of 800-900 m³. In 2009 there was disposed to SPaP 673 m³ of bilge water.

In Slovakia annual production of waste oil from ships in 2007 and 2008 was around 45 tonnes. In 2009 vessels of SPaP produced 23 m³ of used oil. This amount was produced on whole river Danube.

6.2 WASTE RECEPTION FACILITIES AND WASTE LOGISTICS

Organizing the ship borne waste collection and disposal is a very simple process regarding the fact that the Slovak section of the Danube River is relatively short. Basically, it provides flexible options for water transport operators to deliver waste from ships to organizations authorized to handle with this type of waste based on a bilateral agreement in accordance with the current legislation.

Collection and handling of ship borne waste shall be in accordance with the waste management programme of the Slovak Republic and relevant locality. Furthermore, it is important that handling of waste will be carried out by organizations which were granted permission or authorization for this type of activity. This activity shall be carried out in accordance with the Waste Act. In addition, the process is linked with recording, reporting and monitoring the amount of generated waste and it is subject to control of observing the provisions in accordance with the legal regulations.

In Slovakia there are currently a sufficient number of companies which are granted permission by the national waste management authorities or authorized by the Ministry of Environment to carry out recovery or disposal of ship borne waste and used oils, respectively.

Information on the existence and location of facilities suitable for recovery and disposal of the respective waste in the district administrated by the local environmental office is provided by the District Environmental Office at request.

6.2.1 Ports

As an only example of waste management from ships in ports in Slovak territory we present a system of collection and disposal of waste carried out by the Slovak Shipping and Ports, Joint Stock Company, which is in compliance with the legislation of the Slovak Republic.

Another major water carriers in Slovakia:

- the Slovak Water Management Enterprise, state company, branch office Bratislava DUNAJ, a centre of water transport, which ensures administration of water courses,
- the Donau Petrol Trade as well as other less major water carriers – the holders of licenses for water transport, carrying shipping transport only as a supplement to the core business transfer the ship wastes (used oils and drainage water) to organisations that are authorized for this activity.

The Slovak Shipping and Ports, Joint Stock company is the majority water transport carrier and operator on the Danube in the Slovak Republic. It provides by its own vessels only cargo services. Its portfolio is more than two hundred vessels of various types and provides 75 % of the total Slovak IWT.

It operates a utility station, pontoon P-65 a facility providing services to vessels for waste disposal arising in connection with the operation of vessels. This is mainly drainage water from the vessel's engine room, bilge water, sewage, used oil and various hazardous waste (oily rags, oil filters, absorbents, etc.).

Utility Station is located on the left bank of the main course of the Danube River in Bratislava at 1865.7 kilometre .

The vessels are operated mostly on weekdays from 7.00 a.m. to 3.30 p.m. Operation of utility station is provided by two employees of the Slovak Shipping and Ports Jsc. Contact to service is possible via e-mail, telephone or via radio transmitter.

In terms of the Slovak Shipping and Ports, Joint Stock company an order for services takes place on the pontoon through notification from the vessel to the nautical department (or radio station), which in turn informs the operating station mostly electronically or by phone about the vessel, scheduled date and furnishing time of the vessel, ordered services and quantities of disposed waste.

Various types of waste are transferred to individual tanks or transmitted to responsible person and then stored in containers, designated for this purpose, labelled according to specific rules.

Records in the registration book are made on the type and quantity of waste received and from them the data is transferred to the registration sheets on waste.

Individual kinds of waste are treated as follows:

bilge water (aqueous liquid wastes) drainage waters (waste with reg. number 16 10 01) – are collected in separated tank from which they are pumped to storage tank belonging to the organization authorized to waste treatment (Limpia) after reaching the tank capacity

- 13 04 01* Bilge oils from inland navigation used up oils (waste with reg. no. 13 04 01) – are collected in separated tank from which they are pumped to storage tank belonging to the organization authorized to waste treatment (Ecorec Slovensko, Detox) after reaching the tank capacity

- sewage waters – collected in separated tank from which they are consequently pumped into built-in waste water treatment plant at service station for processing. Treated water is discharged directly into the Danube River. Waste water sampling is done according to specific regulations. Sewage sludge is delivered to Vrakuňa WWTP;
- oily rags, oil filters, absorbents and so on. (waste with reg. no. 15 02 02) 15 02 02* Absorbents, filter materials, wiping cloths, protective clothing contaminated by dangerous substances
- collected in separated clad container with trapping tank placed on PMO which is after being full transported for disposal by the organization authorized to waste treatment
- oily containers, paint bins, metal and plastic transfer packaging (waste with reg. no. 15 01 10) 15 01 10* Packaging containing residues of or contaminated by dangerous substances
- collected in separated clad container with trapping tank, in designated area, which is after being full transported for disposal by the organization authorized to waste treatment
- lead and nickel – cadmium batteries (waste with reg. no. 16 06 01 a 16 06 02) – collected in designated area. After being full they are transferred for material assessment by the organization authorized to waste treatment.

Technical parameters of the service station – Pontoon P-65 and waste specifications

Vessel dimensions:

Length:	76,5 m
Beam:	11,0 m
Draft:	2,7 m

Vessel location:

rkm: 1865,7 – left bank of the Danube River

Maximum waste storage capacity:

Bilge water:	136 m ³
Used oil:	38 m ³

Domestic wastewater: 65 m³, subsequently disposed at WWTP with maximum capacity up to 7 m³/day

Container for sorptive substances: 7 m³ – placed on the river bank.

At present it is neither technically feasible nor necessary to increase the waste storage capacity.

Maximum storage capacity for oils and fuels:

Diesel:	1 076 m ³
Gasoline:	5 m ³
Motor oil:	47,8 m ³
Gear oil:	6,8 m ³

As it was already mentioned, these services are provided by the SpaP Joint Stock company only for their own vessels. However, with regard to national, but especially the international harmonization of process of ship waste handling on the Danube, this status is insufficient and non-perspective, even if it is in accordance with valid legislation of the Slovak Republic.

From this aspect, it is necessary to ensure the inevitable capacity expansion and achievement of required technical level of this stationary facility for ship waste collection and processing for all vessels of all water transport operators in the port of Bratislava; after conclusion of an international treaty also for foreign operators.

It would not be possible to extend this service for the vessels from other countries without having amended the valid legislation of the Slovak Republic and the European Union (Section 23, paragraph 3 of the Act no. 223/2001 Coll., Regulation No 1013/2006/EC).

In case the Concept of ship waste management in Slovakia, which is a part of the Concept of ship waste management on the whole Danube, results in an international agreement with strictly defined rules (it takes precedence over the national legislation in accordance with the Constitution of the Slovak Republic), this problem will be eliminated (in case waste management is the subject of an international treaty, the REGULATION No 1013/2006/EC on shipments of waste will not be applied to offloading the ship waste including waste water generated by the normal operation of ships - in accordance with the Article 1, paragraph 3, letter a) of the REGULATION). In connection with the mentioned above is necessary to consider with definite form of complicity in establishment and operation of mobile facilities for the ship waste collection and handling; within the meaning of this treaty.

It is necessary not only to consistently observe with the requirement of European Agreement on Main Inland Waterways of International Importance – AGN (Annex III c), to equip the ports of international importance (Bratislava, Štúrovo, Komárno) by facilities for treatment of waste, accumulated in vessels, but it is recommended to ensure the conditions of waste separation and separate collection of individual types of ship waste (with the exception of liquid waste) in accordance with the legislation for waste management in these ports.

6.2.2 Handling Stages

Handling stages are located in every Slovak port. Special provisions related to handling stages are not included in our legislation. It is important to apply general provisions of the Waste Act and Water Act for handling of priority pollutants with aim to prevent contamination of surface and ground water resources.

6.2.3 Locks

In Slovakia, the collection of waste is not carried out in the locks. If necessary (international treaty), it is possible to take into account the option of delivering separated residual waste and other types of solid waste in the locks.

7 OBJECTIVES

7.1 OBJECTIVES ACCORDING TO NATIONAL LEGISLATION/REGULATIONS

The main objective of the concept of handling of waste from vessels within the needs of inland navigation in Slovakia is the development of a system that enables providers of ship transportation to use comfortable system of waste collection, delivery and disposal without a risk posing to continuity and safety of own vessel operation, continuity and safety of navigation on waterways, and environmental elements.

The main objective within the legal framework for water management, which shall be transposed to the concept of ship waste management on Danube, is to implement the following measures (in accordance with the defined environmental objective for surface water - §5, Article 2 of the Water Act 364/2004):

- a) To prevent deterioration of surface water bodies quality and quantity,
- b) To protect improvement and recovery of surface water bodies with the goal to achieve good quality and quantity of surface waters by December 22, 2015,
- c) To protect and improvement of artificial and heavily modified surface water bodies with the goal to achieve good ecological potential and good chemical status by December 22, 2015,
- d) Gradual reduction of pollution caused by priority substances and cessation or phasing out emissions, discharges and losses of priority hazardous substances.

The achievement of this objective depends mainly on reasonable regulation and thorough control of discharged pollution. This approach is important to be applied to every form of water pollution and also to discharge of separated bilge water from navigation (at present it is prohibited).

In the process of ship waste management approach compliant the purposes of waste management of the Slovak Republic from their inception to the safe disposal will be applied:

- a) To prevent waste generation and restrict its generation
- b) To recover waste by its recycling, re-use or other processes allowing obtaining secondary raw materials, unless the procedure under letter a) is impossible or inefficient
- c) To exploit waste as a source of energy unless the action under letters a) or b) is impossible or inefficient

d) To dispose waste in a way not threatening to human health, not damaging to the environment above the level laid down by law, unless the action under letters a), b) or c) are impossible or inefficient.

This objective should be achieved by harmonizing the ship waste collection and handling process with the waste management programme of the Slovak Republic and relevant locality. In this respect, it is important to record, report and monitor amounts of generated waste and mainly to observe the provisions defined under the Waste Act for activities related to waste management. These activities are conditional on getting permission or authorization and they are subject to control.

Since the International Danube Water Way, which is a part of the Pan-European Transport Corridors, has a crucial position in the updated version of the Inland Navigation Development Concept of the Slovak Republic, the tasks resulting from this concept have a supranational character. Therefore, Ministry of Transport, Construction and Regional Development of the Slovak Republic enforces integrated approach to ship waste management on the entire Danube River. This approach requires higher level of organizing the waste management process than it is currently implemented in Slovakia.

Based on the experience learned from the Rhine River it is important to take into consideration the mobile collecting and treating service (vessel) in combination with sufficiently dense network of stationary facilities for collection and further handling of ship waste in the ports along the Danube River.

This concept shall provide protection of all environmental elements corresponding at least to the current EU legislation with all attributes of regulation and control. Technical parameters of mobile and treatment vessel for bilge water (condition for ship technical qualification) will guarantee the required treatment as well as water quality protection. Since the Slovak Republic has been the EU member for more than five years, its national environmental legislation includes the transposition of the EU legal regulations and it is now implemented in Slovakia.

Stationary waste collection service (including further handling of waste) in combination with mobile collection and treatment service are a basis of the implementation platform for the concept of waste management for inland navigation in the Slovak Republic with respect to the requirement for international harmonization of this process along the Danube River and in accordance with the viewpoints of the Ministry of Environment and the Ministry of Transport, Construction and Regional Development of the Slovak Republic.

Technical parameters of a mobile bilge water collection and treatment vessel (condition for meeting technical requirements for ships) will guarantee required process of bilge water treatment and thus water quality protection.

The requirement for appropriate system of regulation and monitoring of wastewater discharge and handling of waste in accordance with the current EU legislation will be applied.

In addition, the concept of waste handling take into account the principles of EU environmental policy as a precautionary principle, preventive approach, the polluter pays principle and prevention of pollution at source extension.

7.2 OBJECTIVES ACCORDING TO INTERNATIONAL FRAMEWORK CONCEPT

As River Danube is international Water Way integrated approach to ship waste management on the entire Danube River should be preferred which requires higher level of organizing the waste management process than it is currently implemented in Slovakia and in other Danube countries.

International harmonization of the process of ship waste management should respect already mentioned principles of water protection and support of waterway transport and includes the following:

1. legal and technical framework that can be currently achieved by the application of EU enactment (Directive, Regulation) or by contracting of international convention/treaty.
2. coordination – assurance of international cooperation and unified system of ship waste management
3. monitoring - establishment of control mechanisms of ship waste management processes
4. financing - common system of ship waste management also requires a common approach to creation of financing model

7.3 OTHER OBJECTIVES/ OBJECTIVES FOR CERTAIN KIND OF WASTES

The objectives of the waste management of the Slovak Republic are defined under the Waste Management Programme for 2006 – 2010. A binding part of the Programme describes the trend of handling of certain types and amounts of waste. Fundamental part of the Programme of the Slovak Republic includes the intents to build facilities of superregional significance.

A binding part of the Programme contains the principles of waste management and it is elaborated and divided into sections in accordance with the Waste Act and EU directives. It is divided into separated groups of waste with subdivision into commodities and categories of waste which include the objectives and measures to achieve the purpose of the Waste Management in Slovakia and ensure progress in this field.

7.3.1 Objectives for oily and greasy ship waste

The Waste Management Programme of the Slovak Republic includes the objectives defined for recovery of waste oil: material recovery 80%, energetic recovery 20 % and disposal 0%.

At present, oil and oily emulsions processing is mainly carried out by DETOX, Banská Bystrica (operations in Banská Bystrica and Rimavská Sobota). The legal framework on air protection (after 2006) regulating waste oil combustion in relation to regulation of fuel quality requirements should have significant supporting effect on material recovery of waste oils. This

fact will result in increasing pressure on technological requirements for handling of approximately 7 000 – 9000 tons of waste oil using material recovery.

Expected high rate of waste oil recovery is specific for several reasons and its achievement requires implementation of several measures starting with increasing the efficiency of waste oil collection from waste producers categorized according to the purpose of oil use.

The solution is based on implementation of efficient and functioning collection system that integrates a sufficient number of collection points and collection yards for accumulation of oils in accordance with the legal requirements.

7.3.2 Objectives for cargo wastes

In the Waste Management Programme of the Slovak Republic there are no specific objectives for recovery and disposal designed for these types of waste. for the year 2010. Given the volume and type of waste determined by cargo there is no reason for that.

7.3.3 For residuals/other hazardous ship wastes/

In the Waste Management Programme of the Slovak Republic there are no specific objectives for recovery and disposal designed for these types of waste for the year 2010. Given the volume of waste there is no reason for that.

8 MEASURES

With regard to international importance of the Danube water way the necessary presumption for creating purposeful concept of ship waste management in the entire Danube River is harmonizing the conditions and objectives of national concepts. The basis of rational and progressive national concept of ship waste management should be anticipation and application of generally applied principles ensuring smooth transition to the transnational level.

8.1 MEASURES FOR INTERNATIONAL HARMONIZATION

The expected result of international harmonisation is the international treaty following the pattern on the Rhine River (including German stretch of Danube) and in particular with regard to the Recommendations of the Danube Commission with corresponding implementation platform of specific measures, management and control mechanism.

For this purpose it is necessary to:

1. Delimit legal and technical framework that can be currently achieved by the application of EU enactment (Directive, Regulation) or by contracting of international convention/treaty. In respect of time severity of EU legislative processes and the fact that no all Danubian countries

are EU members, contracting of international convention may be preferred. The basis of technical waste management is already defined in the Recommendations of Danube Commission:

- proposal of uniform terminology
- proposal of uniform principles regarding handling of waste from its origination to safe delivery observing legislation of the EU including the conditions of records and delivery documents
- dimensioning necessary capacities for collection and handling of ship waste and proposal of their proportional distribution along the river within individual countries – mobile collecting and treating service (vessels) in combination with equally dense network of stationary devices for consumption and other ship waste management in ports along the Danube.
- proposal of limit concentration of oil substances in separated bilge water discharged from mobile vessel (emission limit) with regard to meeting the environmental objectives for surface water, BAT, etc.

2. establish a coordinating body – assurance of international cooperation and unified system of ship waste management is subject to the existence of coordinating body (national ship waste management concepts and coordination),

3. monitoring - establishment of control mechanisms of ship waste management processes on national and international level (collection of data and information, RIS system)

4. financing - common system of ship waste management also requires a common approach to creation of financing model. In the proposal of a sustainable financial model, in accordance with the recommendations of the Danube Commission as basic principles the principle polluter pays and indirect payment are applied.

8.1.1 Terms and conditions of drafting, signing and ratifying an international agreement (WANDA Convention)

The terms and conditions of drafting, signing and ratifying international agreements are defined under the following document: Rules of Signing International Contracts and of Contractual Practice approved by the Decree of the Slovak Government No. 743 of 21 October 2009.

A contract is considered agreed when its text becomes original and definite. A contract is considered concluded when relevant authority gives written consent on behalf of the Slovak Republic and this contract will be binding for the Slovak Republic.

A contract shall be in accordance with the Constitution, constitutional acts and standards of international law, and it shall be in compliance with the European Union and European Community legislation, if required.

Responsible authority for the contracts in the field of environmental policy, water management and for the agreements on transboundary waters is

the Ministry of Environment of the Slovak Republic
Nám. Ľ.Štúra 1,
812 35 Bratislava
www.minzp.sk

The Ministry is responsible for drafting the contract in relation to a partner country but it is also responsible for negotiations and approvals related to the contract at the national level in accordance with the legislation of the Slovak Republic. The Ministry is responsible for organizing expert discussions and preparing contract negotiations (presidential, governmental and ministerial agreements). The Minister on behalf of the Ministry submits required documents to the Government and eventually to the National Council for national approval procedure. The Ministry represented by the Minister asks the Minister of Foreign Affairs for co-signing the documents to be submitted to the Government for the discussion. After completion of national approval procedure the Ministry asks the Minister to take appropriate steps – to delegate the powers and get approval of these powers by the signature of the President of the Slovak Republic (presidential agreements) or of the Minister (governmental and ministerial agreements); to provide and prepare all documents required for the contract (ratification documents, accession documents, etc.); and to get approval of these documents from responsible officials.

Coordination of contract preparation, discussion, negotiation, conclusion and execution including its termination is the responsibility of

the Ministry of Foreign Affairs of the Slovak Republic
Hlboká cesta 2
833 36 Bratislava
www.mzv.sk

The Ministry of Foreign Affairs comments on draft contracts mainly with regard to national legal regulations related to international contracts, international law standards and interests of foreign policy of the Slovak Republic and ensures countersignature of the Minister. It prepares letters of credence for the delegation of the Slovak Republic to participate in the negotiations on draft contracts, gives authorization to sign contracts, ratification documents, documents on acceptance, approval or accession to contracts or other documents confirming the obligations of the Slovak Republic under the contract. In cooperation with the Ministry of Justice of the Slovak Republic it publishes the contracts in the Collection of Laws and provides information on termination and cancellation of published contracts as well as comments, amendments and other important facts related to published contracts.

Expert discussions and negotiations on the draft of multilateral agreement are organized within the expert groups, multilateral committees, bodies of international organizations or diplomatic conferences. Participation of Slovak representatives in expert negotiations on preparation of multilateral agreement is administered by the responsible authority. The letter of credence for national delegation shall be prepared by relevant ministry at the request of responsible authority.

For the purpose of expert negotiations, responsible authority shall prepare a proposal of a directive which includes mainly the following:

- a) justification of the purpose of contract conclusion
- b) specification of a type of contract according to the Article 4 of these rules,
- c) analysis of the effects of contract on the legislation and state budget of the Slovak Republic or eventually on regional and municipal budgets,
- d) proposal of the principles of a contract preparation to be applied in negotiations
- e) proposal for selection of the members of expert delegation

Expert negotiations on multilateral agreement are concluded by the acceptance of the text of a contract.

The conclusion of a contract is confirmed by the signature. A contract can be signed only by a person authorized by the competent authority. The competent authorities are as follows: the president for presidential agreement, the government for governmental agreement and the minister for ministerial agreement.

A contract comes into effect on the date specified in the contract or based on the agreement with the state or other bodies of international law which participated in the contract negotiations.

8.2 FURTHER MEASURES ON NATIONAL LEVEL

Whereas:

- According to the model implemented on the Rhine River (CDNI - Convention relative a la collecte au depot et a la reception des Dechets survenant en Navigation Rhenane et Interieure *Strasbourg 1996* www.ccr-zkr.org), international harmonization of waste management for inland navigation should result in an international agreement including adequate implementation platform of particular measures as well as management and control mechanism that are presented in the Danube Commission Recommendations (Empfehlungen zur Organisierung der Sammlung von Schiffsabfällen in der Donauschiffahrt, Budapest 2007; www.danubecom-intern.org);
- Accession of the Slovak Republic to international agreement will lead to elimination of restrictions resulting from national legislation for water management (prohibition to discharge other waste than treated sewage water from ships into receiving water - §19, Article. 4 and 5 of the Water Act No.364/2004) and waste management (prohibition of transboundary transportation for the purpose of waste disposal § 23, Article 3 of the Act 223/2001) since the agreement will be superior to the legal regulations of the Slovak Republic;
- Implementation of the above-mentioned approach will eliminate the problem resulting from the obligation to follow the procedural framework established for waste transport under the Regulation 1013/2006/EC

Have proposed these recommendations:

- to enforce the requirement of the integrated approach to waste management for inland navigation on the Danube and to support the conclusion an international agreement of the Danube countries within the Recommendation of the Danube Commission
- to provide necessary extension of capacity and required technical level of stationary facility in Bratislava port (pontoon P-65) for collection and processing of ship waste for vessels of all Slovak navigation operators and after signing the international agreement this will apply also for foreign vessels
- to provide conditions for waste separation, separated collection of specific kinds of waste (with the exception of liquid waste) for inland navigation in ports of international importance (Bratislava, Štúrovo, Komárno) in line with the waste management legislation in the Slovak Republic
- to perform minimal test monitoring of keeping the register and control of ship waste management following the licences issued for conducting public navigation in the Slovak Republic
- to improve awareness of the options for waste management for inland navigation by ranking provision of this information among the activities RIS/ SLOVRIS
- to continue in the process of waste management for inland navigation – project WANDA/WANDA II or participation in other international projects of this kind

9 EVALUATION OF THE NATIONAL SHIP WASTE MANAGEMENT CONCEPTS/MONITORING ACTIVITIES

The whole process of designing the concept of ship waste management in the Slovak Republic was carried out in close cooperation and dialogue with stakeholders - the state administration for inland waterway transport and for environment - Department of Water and Waste Management, ship operators, representatives of organizations authorized to manage the ship waste and so on.

A proposal of the National Ship Waste Management Concept has been developed based on the following:

- analysis of the legal regulations of the Slovak Republic (including transposition of the EU legislation) in the field of inland navigation, water management, waste management
- analysis of the scope of state authorities and state expert inspection bodies for water management, waste management and inland water way transport,
- analysis of institutional and real organization of inland navigation in conditions of its transformation into the private sector ,
- description of water way including relevant infrastructure, real condition of vessels in Slovakia and amount of transported goods

- analysis of the production of actually generated wastes in ship transport on the Danube River

Simultaneously the fundamental concept materials were taken into account in the field of:

- Inland navigation: Concept of Water Way Transport Development in the Slovak Republic
- Water management: Concept of Water Management Policy of the Slovak Republic by 2015
- Waste management: Waste Management Programme of the Slovak Republic for 2006 – 2010

The results of the analyses and the basic premises of the concept of ship waste management in the Slovak Republic resulting from these analyses were precisely discussed with the responsible representatives of state administration for inland water transport, water and waste management. The proposal of the concept of ship waste management strictly follows the framework of basic principles of the concept, which was approved by these representatives at the meeting on 24 May 2010 (see attached minutes).

Recommendations resulting from the concept of waste management for inland navigation were presented and commented as the conclusions of International Conference on Waste Management for Inland Navigation held in Kriváň Ship (sailing from Bratislava to Gabčíkovo and back) on August 17, 2011. The version amended in terms of recommendations made at the Conference (see 8.2) was delivered to representatives of the Ministry of Environment of the Slovak Republic, Ministry of Transport, Construction and Regional Development, Slovak Environmental Agency, Public Ports and other stakeholders, and it was approved without any comments.

As regards monitoring of collection and handling of ship waste, this process is connected with recording, reporting and monitoring of amounts of generated waste, and it is subject to the control of meeting the requirements under the legal regulations (Slovak Inspection).

Given the fact that wastes from ships are subject to individual reporting system on waste generation and waste management up to a certain amount of generated waste, we recommend to carry out survey monitoring of the obligation to keep records of waste and control ship waste management based on licenses for the performance of public water transport in the Slovak Republic.

CONTACT INFORMATION

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Documentation of Public Ports joint-stock company

Act No. 364/2004 Coll. on waters as amended

Act No. 338/2000 Coll. on inland navigation as amended

Regulation of the Government of the Slovak Republic No. 193/2009 Coll., on Technical and Operational Requirements for Inland Waterway Vessels

Decree of the Ministry of Transport, Posts and Telecommunications of the Slovak Republic 1740/M-2001, by which safety rules of the vessel operation on inland waterways of the Slovak Republic are issued

Act No. 223/2001 Coll. on waste as amended

Decree of the Ministry of Environment of the Slovak Republic No. 283/2001 Coll. on Implementing Certain Provisions of the Act on Wastes

Decree of the Ministry of Environment of the Slovak Republic No. 284/2001 that sets the waste catalogue

Concept of Water Way Transport Development in the Slovak Republic

Concept of Water Management Policy of the Slovak Republic by 2015

Waste Management Programme of the Slovak Republic for 2006 – 2010

Regulation (EC) 1013/2006 of the European Parliament and of the Council on shipments of waste.

Convention regarding the regime of navigation on the Danube, Belgrade, 1948

Central Commission for the Navigation of the Rhine (2002): Übereinkommen über die Sammlung, Abgabe und Annahme von Abfällen in der Rhein- und Binnenschifffahrt. Strasbourg,

www.ccr-zkr.org



Danube Commission: Empfehlungen zur Organisation der Sammlung von Schiffsabfällen in der Donauschifffahrt, Budapest 2007; www.danubecom-intern.org

Sava Commission Protocol on prevention of the water pollution caused by navigation to the framework agreement on the Sava river basin, Zagreb 2002; www.savacommission.org

EU Strategy for the Danube Region, Brussels, 2010; www.danubestrategy.eu

European Agreement on Main Inland Waterways of International Importance (AGN); www.unece.org/trans/conventn/agn.pdf

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11 ANNEX

Minutes from the Meeting on Alternatives for Implementing

the Pilot Action in Slovakia – WANDA Project

Venue: WRI Bratislava, meeting room at WRI

Date: 19.5.2010 and 24.5.2010

Participants: Ing. Milan Timár, Ministry of Environment of the SR, Water Section
JUDr. Jarmila Zigová, Ministry of Environment of the SR, Water Section
Bc. Daniel Galanda, Ministry of Environment of the SR, Water Section
Mgr. Ján Opial, Ministry of Environment of the SR, Environmental Quality Section, Waste Management Department
Ing. Matej Vaníček, Ministry of Transport, Posts and Telecommunications of the SR
Ing. Peter Čáky, Ministry of Transport, Posts and Telecommunications of the SR
Ing. Mária Kováčová, Slovak Environmental Inspection
Ing. Júlia Šumná, Water Research Institute
RNDr. Beáta Michniaková, Water Research Institute

Agenda: Alternatives for the implementation of international pilot action for bilge water collection and disposal in the Slovak Republic and ship waste management concept – WANDA Project.

The meeting was aimed at the assessment of possibilities to implement international pilot action for bilge water collection and disposal in Slovakia in accordance with the valid European and Slovak legislation.

The meeting was opened and chaired by Ing. Timár. He asked experts from WRI to provide participants with information about WANDA project.

Ing. Šumná briefly informed participants about suggested alternatives of pilot action on the Upper Danube stretch – HU, SK and AT. Since the suggested alternatives of pilot action (A1, A2, A3) can be implemented in the Slovak Republic regarding valid legislation for water management (prohibition of discharging waste waters other than treated domestic waste waters from vessels into receiving body – § 19, Articles 4 and 5 of the Act 364/2004 on Waters) and waste management (prohibition of cross-border shipment for the purpose of disposal § 23, Article 3 of the Act 223/2001) only in the following ways:

Alternative A1 - collection and treatment of bilge water **only from Slovak vessels** by collecting and treating vessel **without discharging treated bilge water** into the receiving body and consequent delivery of treated bilge water and waste oil separated from bilge water to port staff authorized to handle with this type of waste in accordance with the Act No. 223/2001 Coll. on waste as amended in later regulations (hereinafter “Act”)

Alternative A2 - collection of bilge water **only from Slovak vessels** by collecting vessel without treatment and discharging into the receiving body and consequent delivery to port staff authorized to handle with this type of waste in accordance with the Act.

Alternative A3 - every vessel - **only Slovak vessel** - delivers generated waste to a port, based on mutual agreement with the Lead Partner of WANDA Project - via donau, the 4th alternative (modification of the 1st alternative) was suggested as follows:

- collection of bilge water by collecting vessel from all vessels on the Slovak Danube stretch (regardless the flag of the country under which they are registered) without discharging into the Danube River (receiving body) in the Slovak section. Separated water will be discharged either on the Austrian or Hungarian stretch of the Danube River, and in the same way the separated waste oil will be delivered to authorized organizations in the Austrian or Hungarian ports.

The opinion of the representative of the Ministry of Environment of the Slovak Republic, Environmental Quality Section, Waste Management Department is as follows:

The permission of the national waste management authority to operate waste collection facility (vessel) is required in accordance with §7, Article d) of the Act 223/2001 on wastes in case the facilities are not granted permission to dispose or recover waste.

In case the waste holder annually handles with more than 100 kg or waste shipper annually transports more than 100 kg of hazardous waste, the permission of national waste management authorities to handle with hazardous waste including its transport is required in accordance with §7, Article g) of the Act, if this permission is not a part of the permission according to other provisions.

Granting the permission is a question at issue in case the German vessel is hired by the Austrian company for the period of pilot action taking into account the identification of local responsible authority that is specified according to the seat of the company. Therefore, the process of bilge water collection can not be implemented in this way.

The third alternative was chosen by the participants of the meeting as the final variant of the pilot action implementation in the territory of the Slovak Republic on the basis of these facts and during the pilot action the collection and handling with ship waste in Bratislava port will be monitored for the needs of the project. Waste collection on Austrian and Hungarian section of the Danube will be carried out by mobile collecting vessel. This vessel will operate on the Slovak section of the Danube without any limitations on the condition that no bilge water collection and discharge would be done and it would not offload waste in port for the purpose of its disposal.

The participants agreed that the pilot action is possible to be implemented only within valid European and national legislation but ship waste management concept in the territory of Slovakia as a part of ship management concept in the entire Danube River **is necessary to be constructed and unified at higher quality level also providing that valid national legislation is replaced by an international agreement which takes precedence over the national laws according to the Constitution of the Slovak Republic.**

Project participants suggested discussing also the concept question of the integrated system of ship waste management on the entire Danube River.

Meeting participants agreed that this concept should mainly ensure protection of all elements of environment corresponding to current legal condition in the European Union with all attributes of the control and the regulation as well as the comfort system of collection and disposal of specified waste for operators of water transport. That means the combination of mobile collecting service with sufficiently compact network of stationary facilities in the ports along the Danube River. Technical parameters of mobile and treatment vessel for bilge water (condition for ship technical qualification) will guarantee the required treatment as well as water quality protection. It is necessary to apply also the requirement for suitable system of water discharge and waste handling control.

Conclusions:

Representatives of the Ministry of Environment of the SR and the Ministry of Transport, Posts and Telecommunications of the SR and other participants of the meeting expressed support for the WANDA project and pilot action project implementation on the Upper Danube Stretch. Their standpoints related to vital issues are the following:

- Pilot action is possible to be implemented in Slovakia only in accordance with valid European and national legislation which means according to the Alternative A3 (only for the waste from Slovak vessels)
- The concept of ship waste management in the territory of the Slovak Republic as a part of the concept of ship waste management in the entire Danube River **is necessary to be constructed and unified at higher quality level** (combination of mobile collecting and treating facility with the network of stationary devices) **also providing that valid national legislation is replaced by an international agreement which takes precedence over the national laws according to the Constitution of the Slovak Republic.**

Elaborated by: Ing. Šumná, RNDr. Michniaková, VÚVH

Agreed by: Ing. Timár, MŽP SR

Approved by: Ing. Gabriel Jenčík, Plenipotentiary of the Slovak Republic Government for water issues in the border waters of Austria and Hungary