Republic of Serbia
MINISTRY
OF ENVIRONMENTAL PROTECTION
Number: 000886163 2024
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Nemanjina 22-26
Belgrade

Republic of Bulgaria
Ministry of Environment and Water
Minister, Mr. Petar Dimitrov

22 Maria-Luisa Blvd, 1000 Sofia,
Republic of Bulgaria

Subject: Project of construction of a waste-to-energy plant at the cadastral parcels 1420/1, 1420/4, 1491/1, 1541/1, 1541/2, 1552, 5824/1, 6513/1, 6513/2 K.O. Prahovo, Municipality of Negotin and construction by phases of non-hazardous waste landfill Elixir Prahovo at the cadastral parcels 2300/1, 1491/1 and 1541/1 K.O. Prahovo, Municipality of Negotin.

Your reference: Letter No. 04-00-949-36 dated on November 15th, 2024.

Dear Minister,

Within this letter we are submitting the answers related to Your respected letter Reg. No 04-00-949-36 dated on November 15th, 2024, with additional separate summary:

- Attachment 1_Executive Summary of the EIA for the subject project (Waste-to-Energy Plant and Non-Hazardous Landfill in Prahovo)

Additionaly, as the attachment to answer regarding the question from the scope of Waste Factor, we submitt the following:

- Attachment 2_List of acceptable EWC codes with maximal annual capacity for thermal waste treatment in the Waste-to-Energy Plant Prahovo (attachment to answer numbered as: 1.b, chapter Waste Factor)

Hopefully, you will find the level of provided details sufficient for full project impact comprehension.

Sincerely,

MINISTER
Irena Vujović

Answers related to Letter of the Ministry of Environment and Water of the Republic of Bulgaria Reg. No 04-00-949-36 dated on November 15th, 2024

WASTE FACTOR

1. **<u>In the "Notification to the Affected Party of the proposed activity under Article 3 of the Convention", the following information is missing:</u>**
   <u>"Type of waste by code and quantity, on an annual basis, to be generated during construction, to be treated in the incineration plant and to be generated after incineration."</u>

Answer:

The comment is well noted. Required data has been already provided in the dedicated sections of the submitted EIA (6.1 Overview of possible changes in the environment during the execution of the project & 3.4.1 Review of the type and amount of gases, water and other liquid and gaseous waste substances released during the construction of the facilities in question), but they will be more precisely specified as follows:

a) **Type of waste by code and quantity to be generated during construction:**

Estimated total mass/volume of waste to be generated on site, during the construction is given in the submitted EIA study, Table 3.46 and Table 3.47.

Table 3.46 List of expected construction waste and estimated quantities of waste to be generated on the site of the Waste-to-Energy Plant

EWC code	Description	Units	Estimated total mass/volume of waste to be generated on site
17	**CONSTRUCTION AND DEMOLITION WASTE (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)**		
17 01	**17 01 concrete, bricks, tiles and ceramics**		
17 01 01	Concrete	t	3
17 01 02	Bricks	t	0.5
17 01 03	tiles and ceramics	t	0.5
17 02	**wood, glass and plastic**		
17 02 01	Wood	t	3
17 02 02	Glass	kg	100
17 02 03	Plastic	kg	100
17 04	**metals (including their alloys)**		
17 04 01	copper, bronze, brass	t	1
17 04 02	aluminum	t	0.1
17 04 04	zinc	t	0.1
17 04 05	iron and steel	t	2
17 04 07	mixed metals	t	1
17 04 11	cables other than those mentioned in 17 04 10*	t	0.1
17 05	**soil (including soil excavated from contaminated sites), stone and excavation**		
17 05 03*	soil and stone containing hazardous substances	m^3	1

17 05 04	soil and stone other than those listed in 17 05 03	m³	100
17 05 05*	Excavation containing hazardous substances	m³	10
17 05 06	Excavation other than that mentioned in 17 05 05*	m³	50,000
17 06	**insulation materials and asbestos-containing building materials**		
17 06 03*	other insulating materials consisting of or containing hazardous substances	kg	100
17 06 04	Insulating materials other than those specified in 17 06 01* and 17 06 03*	kg	100
17 08	**Gypsum-based construction material**		
17 08 02	gypsum-based construction material other than those mentioned in 17 08 01*	kg	100
17 09	**Other construction and demolition wastes**		
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01 and 17 09 02 and 17 09 03	kg	100
12	**WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS**		
12 01	**wastes from shaping and physical and mechanical surface treatment of metals and plastics**		
12 01 13	welding wastes	kg	200

Table 3.47 List of expected construction waste and estimated amount of waste to be generated at the construction site of the Landfill for Non-hazardous waste

EWC code	Description	Units	Estimated total mass/volume of waste to be generated on site
17	**CONSTRUCTION AND DEMOLITION WASTE (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)**		
17 02	**wood, glass and plastic**		
17 02 03	Plastic	kg	1,000
17 05	**soil (including soil excavated from contaminated sites), stone and excavation**		
17 05 04	earth and stone other than those mentioned in 17 05 03*	m³	4,000
17 05 06	Excavation other than that mentioned in 17 05 05*	m³	36,000

In accordance with the legal regulations of the Republic of Serbia, as one of conditions for obtaining a Construction Permit, the investor is obliged to prepare Construction Waste Management Plan, which must be approved by the Ministry of Environmental Protection.

Additionally, In accordance with Article 158. of the Law on Planning and Construction ('Official Gazette of the Republic of Serbia', no. 72/2009, 81/2009 - amended, 64/2010 - decision of the US, 24/2011, 121/2012, 42/2013 - decision of the US, 50/2013 - decision of the US, 98/2013 - decision of the US, 132/2014, 145/2014, 83/2018, 31/2019, 37/2019 - other law, 9/2020, 52/2021 and 62/2023), the application for the issuance of a use permit is accompanied by a document on the movement of waste, i.e. a document on the movement of hazardous waste confirming that the waste was generated by construction and demolition (construction waste), handed over to the operator of the plant for the treatment or storage of waste, as well as other evidence in accordance with the regulation that regulates the procedure for the implementation of the unified procedure.

b) Type of waste by code and quantity to be treated in the incineration plant:

The maximal annual capacity of thermal waste treatment in the subject Waste-to-Energy Plant is limited to total 100,000 tons per year, cumulatively for all listed EWC codes that are anticipated as acceptable in accordance with the designed incineration technology, in respect to relevant EU and national regulation.

- List of acceptable EWC codes with addition of maximal annual capacity for thermal waste treatment (R1 operation) of all listed EWC codes is provided as Attachment 2 to this letter.

The data of maximal annual thermal treatment capacities determined for individual types of waste (EWC codes) are calculated in accordance with:

- anticipated aggregate phase and/or physical composition of waste, and
- maximal annual capacity of each waste dosing line/system designed for different waste aggregate phase and/or physical composition (i.e., liquid, sludge, solid and heterogeneous multiphase composition), as presented in the following table:

Waste dosing lines/systems		Maximal annual capacity of each waste dosing line/system (in tons per year)	
1	Line for dosing of liquid waste (from the liquid waste storage tanks)	liquid wastes	40,000
2	Line for dosing of sludge waste (from the sludge storage bunker)	sludge wastes	80,000
3	Line for dosing of pre-treated waste of heterogeneous composition (e.g., packaged liquid, solid and sludge wastes in IBC containers, barrels, etc., after fine grinding in an inert/nitrogen atmosphere)	fine grinded wastes of heterogeneous multiphase composition	80,000
4	Line for dosing of pre-treated solid waste (i.e., after shredding, from the solid waste storage bunker)	shredded solid wastes	100,000
Maximal annual thermal waste treatment capacity of the WtE Plant, total for all waste types / EWC codes (in tons per year)			**100,000**

In order to improve the overall environmental performance of the incineration plant, in accordance with requirements of BAT 9 and BAT 11 of the BATC WI 2019, detailed control of the physical and chemical parameters of waste deliveries intended for thermal treatment will be subject of pre-acceptance and acceptance procedures, in respect to relevant EU and national regulation.

Prohibited waste categories

We underline that the following waste categories are strictly prohibited from being treated at the subject project facility under any circumstances:

- Waste classified as explosive, flammable, infectious, or radioactive.

- Waste containing or contaminated with polychlorinated biphenyls (PCBs), polybrominated triphenyls (PCTs), or polybrominated biphenyls (PBBs).
- Waste containing cyanides, isocyanates, thiocyanates, asbestos, peroxides, biocides, cytostatics, or electronic waste.
- Waste substances in aerosol form, organometallic compounds, and aluminized paints.
- Waste containing persistent organic pollutants (POPs)

Limitations for the chemical composition of the simultaneously treated waste mixture

The thermal treatment on the boiler of the Waste-to-Energy Plant Prahovo is strictly governed by the technical design specifications, ensuring consistent compliance with the following defined limitations for the chemical composition of the simultaneously treated waste mixture:

- Sulfur (S): max 2%
- Chlorine (Cl): max 3%
- Organic halogenated substances (as chlorine): max 1%
- Fluorine (F): max 0.02%
- Mercury (Hg): max 10 mg/kg
- Moisture (H_2O): max 50%
- Ash: max 40%.

c) Type of waste by code and quantity to be generated after incineration and disposed on the Non-hazardous waste landfill:

The anticipated generation of a solidified waste amount is expressed in the EIA subsection 3.2.1.12 as follows: "The average expected quantity of solidificate production is 1.08 m3/h, while the maximum simultaneous logistical load of solidificate production is 3.08 m3/h. Taking into account the annual working time of 8300 h/year, the average annual production of solidificate for storage amounts to 8964 m3/year, i.e. the maximum 25.564 m3/year.".

A mass balance has been provided as a supplement to the EIA study, where the amount of solid residues intended for solidification has been provided in line 51, 52 & 53 of Table 15. The max one moment generated amount is given in the EIA subsection 3.2.1.12 as follows: "The maximum amount of residuals introduced into the facility is 3.1 t/h. From this position (reception site), the residuals are transferred by crane to the appropriate field in the facility." Please note that this is a moment maximum, while the overall mass balance depends on longer time operation and the exact waste to be treated.

Non-hazardous waste landfill is an installation designed for landfilling of stabilized and solidified waste residues from the subject Waste-to-Energy Plant, exclusively. Acceptance of solidificate for landfilling is predicated on demonstrating compliance with non-hazardous leaching criteria set for non-reactive waste class according to national and EU regulation. The operation will be guided in accordance with Regulation on disposal of waste on landfills ("Official Gazette of the RS", No. 92/2010)

EWC codes of solidificate, anticipated to be produced and landfilled on the Non-hazardous waste landfill are as follows:

- 19 03 06* - waste marked as hazardous, solidified
- 19 03 07 - solidified wastes other than those specified in 19 03 06

Maximal annual production of solidificate volume amounts to 25.564 m3/year, which multiplied with its anticipated maximum density of 1.5 t/m3, gives a maximal annual quantity of 38,346 t/year of solidificate for landfilling (as non-reactive / inert hazardous or non-hazardous waste), as expressed in the following table:

The maximal annual production of solidificate - Volume	m3/year	25,564
Max density of solidificate	t/m3	1.5
The maximal annual production of solidificate - Quantity	**t/year**	**38,346**

2. **"What quantities of waste will be stored on site, per day."**

Answer:

The comment is well noted. Data provided in the following table presents the Waste-to-Energy Plant maximal capacity of thermal waste treatment (R1 operation) and maximal waste storage capacity (R13 operation), of all listed waste types / EWC codes, per day:

Maximal capacity (i.e., throughput) of the WtE Plant (R1, R13)	Max in tons per day
Maximal thermal treatment capacity of all waste types (R1) per day	408
Maximal storage capacity of all waste types (R13) per day	628

It has to be considered that the calorific value of the different waste types varies depending on their water and/or ash contents; and that the maximum capacity of the incinerator is not defined and limited by the waste throughput in tons per hour, but by the energy input in MJ per hour provided to the furnace in the form of waste.

Maximal thermal waste treatment capacity of all waste types (R1) is calculated based on the maximal thermal treatment capacity of 17 tons per hour of waste with calorific value 7 MJ, which multiplied with 24 hours gives a maximal thermal waste treatment capacity of 408 tons per day.

Maximal storage capacity (i.e., throughput) of all waste types (R13) is anticipated to be 628 tons per day, as a theoretically maximum in terms of simultaneous logistics operation, aligned with other operation capacities of the Waste-to-Energy Plant (i.e. storage, pretreatment, quality control, pre-acceptance and acceptance protocol).
The overall yearly maximal waste thermal treatment capacity of the installation is 100,000 tons per year.

3. **"The origin of the waste, will there be waste resulting from transboundary shipment and if so, from which countries?"**

Answer:
The origin of the waste is Serbia. According to the Law on Waste Management of the Republic of Serbia, the import of waste for disposal and utilization for energy purposes is prohibited. Operation

R1, which involves the use of waste primarily as fuel or another means for energy production, falls under this category. Therefore, the import of waste for the purpose of R1 operations is not allowed in Serbia.

4. **"In view of the fact that a non-hazardous waste landfill is to be built at the installation, it is necessary to specify where and how hazardous waste generated by the incineration process and not eligible for acceptance at a non-hazardous waste landfill will be transferred."**

Answer:
The general environmental protection plan for regular operation, in the EIA section 8.3.3 specifies how testing, traceability and waste mapping is carried out, in order to execute corrective actions if necessary.
Non-hazardous waste landfill is designed and will be permitted for landfilling exclusively of waste which demonstrates compliance with non-hazardous leaching criteria set for non-reactive waste class according to national (Regulation on disposal of waste on landfills ("Official Gazette of the RS",No.92/2010) and EU regulation (Landfill Directive 1999/31/EC, Council Decision 2003/33/EC). Compliance will be tested in accordance with legally specified standard NEN 7345 or equivalent.
In case of non-compliance with the criteria set for disposal to Non-hazardous waste landfill, the reactive hazardous waste will be directed to another recipient, transported using trucks according to hazardous waste transport regulations. The recipient will be an authorized operator of the hazardous waste landfill and/or underground mine operator permitted for acceptance and disposal of such waste streams.
The comment is well noted, and the explanation will be further elaborated in the same EIA chapter.

5. **"In describing the chosen technology for the thermal treatment of waste, no mention is made of how the requirements of Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) - the Directive, and in particular Article 50(3) - that each combustion chamber of the waste incineration plant be equipped with at least one additional burner will be complied with."**

Answer:
Requirements of Article 50(3) of the Directive 2010/75/EU are completely fulfilled in design of the subject project, as well as the BAT requirements for IPPC installations laid out in the Best Available Techniques Conclusions (BATC) on Waste Incineration set into force by the EU in 2019.
In the EIA section 3.2.1.8.5 Ignition fuel and auxiliary fuel system it has been stated: "Two natural gas burners with a nominal power of 2x12 MW are planned for boiler start-up and operation with low-calorie fuel. The burners are only used to start and stop the boiler and in case the temperature in the furnace drops below 850 °C, while in regular operation the burners are only used to introduce secondary combustion air."
In subsection 8.3.2.2 Waste thermal treatment and production of thermal energy in the form of steam it has been additionally stated: "The waste incineration plant will be equipped with at least one auxiliary burner which must be activated automatically when the process gas temperature

drops below 850°C. The burner must be activated automatically when the process gas temperature drops below 850°C.". The solution embodies 2 burners providing 100% redundancy.

6. **"In addition, on the basis of Article 50(4)(c) of the Directive, waste incineration plants and waste co-incineration plants shall use an automatic system that prevents the waste feed whenever continuous measurements show that any of the emission limit values are exceeded due to the upset or failure of the waste gas treatment systems."**

Answer:
Requirements of Article 50(4)(c) of the Directive 2010/75/EU are completely fulfilled in design of the subject project, as well as the BAT requirements for IPPC installations laid out in the Best Available Techniques Conclusions (BATC) on Waste Incineration set into force by the EU in 2019.
In the EIA subsection 8.3.2.2 Waste thermal treatment and production of thermal energy in the form of steam it has been specified that:
"The incineration plant has and uses an automatic system to prevent the feed of waste:

1) at the start-up of the plant, until the temperature reaches the level of 850 °C;
2) when the temperature is not maintained at 850 °C;
3) when it is determined by continuous measurement carried out in accordance with the regulation that the limit values have been exceeded due to some malfunction or interruption of the operation of the waste gas cleaning plant."

The following requirements will be hard coded in the DCS system of Waste-to-Energy Plant.

COMPONENT WATER

1. **"The EIA Report for the project addresses the potential impacts on water from the implementation and operation of the project. I support the measures proposed in the EIA Report to prevent, mitigate and compensate as fully as possible for the adverse effects on water and express a positive opinion on the report with regard to the water component, as well as I would like to request the results of the surface water quality monitoring to be submitted to the Ministry of Environment and Water of the Republic of Bulgaria."**

Answer:
The request of quality monitoring access is noted and will be implemented in the EIA related chapter and Monitoring plan. Investor is pointing out availability of current measurement quality which is given as supplement to the submitted EIA study.
According to the information provided in the EIA report, the following points are planned for sampling from the Danube River of discharged wastewater from the site:

- PV1: on the Danube 150 t upstream of the wastewater collector inlet with GPS coordinates: N 44°17'27.50" E 22°36'58.08".

- PV2: on the Danube 100 m downstream of the wastewater collector inlet with GPS coordinates: N 44°17'21.08'', E 22°37'25.39''.

Measurements at the sites will be carried out 4 times a year.

AMBIENT AIR COMPONENT

1. **"The EIA report (1. ENG - EIAS FINAL eng.pdf) on page 401 presents the boiler parameters to be used as input data for the modelling. In Table 6.10 "Characteristics of the boiler plant emitter (W-C14)" a clerical error has been made, a value of 70 Nm3/h is given for the flue gas volume, this should be 70 000 Nm3/h."**

Answer:
Indeed, this is correct, the mistake occurred during the translation process. It will be corrected in revision.

2. **"In Table 3.49 "Review of the type and maximum concentration of emitted pollutants at the boiler plant emitter", page 251 of the EIA report, the mass flow values of Cd+Tl and Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V need to be revised. Our calculations show that the mass flux values for these pollutants set out in the table are an order of magnitude higher than those that would correspond to the actual maximum emissions."**

Answer:
Indeed, this is correct. The values for Cd+Tl mass flux and Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V, will be corrected to 0,0007 kg/h and 0,007 kg/h, respectively.
The modelling results (concentrations of regulated pollutants in the ground layer) show that these will not lead to exceedances of the standards for the protection of human health set out in European and national legislation.

3. **"I would like to note that there are no modelling results for emissions of heavy metals - Cd+Tl and Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V."**

Answer:
Indeed, this is correct. The location is not historically burdened by such contamination, thereby the relevance of BAT aligned emissions as a contributor to cumulative deterioration of air quality are limited. Moreover, the national & EU regulation for air quality do not specify the category as one with defined limit values.
As the limit values from the aspect of air quality have not been defined for the aforementioned groups of components, consequently it would not be obvious which values to use as comparative basis for the evaluation.

HUMAN HEALTH

1. **"There is no dedicated section in the EIA Report to analyse the potential for transboundary impacts on human health, including accidents with hazardous substances, including health aspects and measures to prevent and mitigate them. The EIA Report does not sufficiently address the following issues which have the potential for harmful effects in a transboundary context and the relevant sections should therefore be completed:**

Answer:
The comment is well noted. The necessary analyses of potential impacts on human health have already been provided within the framework of the EIA supplement studies and their conclusions have been elaborated in the dedicated EIA sections, but they will be more preciously specified in transboundary context as follows:

a) **Estimated assessment of the potential for the transboundary spread of odors from the activities of the investment proposal."**

The maximal odor emission could be expected when the boiler is not in operation, considering that the ambient air from the inside spaces of the Waste-to Energy pretreatment and storage facilities is used as a secondary air for the combustion process during regular operation. In a scenario of emissions during irregular operation, when boiler would not be in operation, the odors would partially be suppressed using a carbon filter. For such a case a dedicated air study executed by Faculty of Mechanical Engineering, University of Belgrade (Study of the impact of the waste pretreatment filter system and activated carbon filter within the Waste-to-Energy Plant on the air quality of the wider location of the chemical industry complex in Prahovo) comprised state-of-art diffusion modelling of TVOC as a surrogate model compound for odor release. The highest TVOC concentrations obtained by modeling, for averaging periods of 1h, 3h and 24h, can be observed immediately next to the northern border of the property and were 109 $\mu g/m^3$, 36.9 $\mu g/m^3$ and 5.59 $\mu g/m^3$, respectively. Considering the indicated limit value (400 $\mu g/m^3$) for TVOC concentration in indoor air, it can be concluded that the values obtained by the model are far below the specified limit. During regular operations, i.e., boiler in operation, the results conclusively demonstrate that TVOC concentrations (as indicator of odor emissions) obtained by modelling are approximately 200 times lower in worst circumstances than extremely stringent indicated limit value of 400 $\mu g/m^3$ for indoor air quality. Thus, the emissions and potential odors are considered negligible on the Industrial complex.
Moreover, the study concludes: "Considering that due to the location of the chemical industry complex in Prahovo, there is a potential effect of cross-border pollution, and bearing in mind the trend of decreasing ground-level pollutant concentrations for all averaging periods, where already after a few hundred meters from the boundaries of the complex the concentration becomes extremely low, it can be concluded that the potential cross-border effect is practically negligible.". In practice, within cited study given figures (3.15 - 3.22), values anticipated in the territory of Bulgaria are below the scale of provided concentration (less than 0,5 $\mu g/m^3$ for a one-day averaging period).

b) **"Identification of new risk factors and harmful substances due to cumulative impact of air pollutants in the area after the implementation of the investment proposal."**

The EIA study conclusively demonstrated that air quality does not deteriorate in case of the subject project even on the production location, with regards to EU and legislation issued by Republic of Serbia. Already active emission sources are dominating the air quality, while the added emissions related to Subject Project execution would be almost negligible. The air quality with respect to SOx emissions could be locally (existing industrial complex area) an extremely seldom concern even under extremely unfavorable climate conditions. Naturally, with increase in distance from the emission source the level of exposure of population to potentially harmful substances declines. This is also demonstrated in the report using state-of-art diffusion modelling with a network covering 50 x 50 km reception area. Most air polluting substances to be emitted by the facility are already emitted from the existing industrial infrastructure in the area. Exceptions are potential PCDD/F, PCDD/F+ dioxins as PCBs and Hg emissions, characteristic for this industry with an impact on health as expressed in the EIA section 6.2.2.2.

In order to minimize exposure, it is crucial to ensure appropriate incineration conditions in order to reduce dioxin emissions and integrate sensitive and critical emission control systems, as required by European Union and RS legislation and envisaged by the subject project.

Another aspect important for controlling emissions is the composition and variation in waste intended for thermal treatment, which affects the concentration of pollutants in emissions. Therefore, the subject project envisages strict control of incoming waste materials, examining of its composition and defining the appropriate working protocols, all in accordance with the defined conditions for thermal treatment in the subject fluidized bed boiler plant.

Subject Waste-to-Energy Plant completely respects requirements for the Operating Conditions regulated in Article 50 of the Directive 2010/75/EU, including Article 50(2) which states: “Waste incineration plants shall be designed, equipped, built and operated in such a way that the gas resulting from the incineration of waste is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavorable conditions, to a temperature of at least 850 °C for at least two seconds.”

Moreover, in the EIA section 3.3.1.5 the following is defined: "The project documentation defines that waste containing more than 1% of halogenated organic substances expressed as chlorine cannot be treated at the boiler. It is strictly forbidden to accept waste that is explosive, flammable, infectious, radioactive, waste materials containing or contaminated with polychlorinated biphenyls (PCB) and/or polybrominated triphenyls (PCT) and/or polybrominated biphenyls (PBB), waste containing cyanides, isocyanates, thiocyanates, asbestos, peroxides, biocides, cytostatic, electronic waste. Additional restrictions on admission to the plant in question are waste materials in the form of aerosols, as well as organometallic compounds (spent metal-based catalysts, or organometallic wood preservatives) and aluminized paints."

A detailed description of the composition of the waste that can be thermally treated, and the conditions of incineration and treatment of waste gases is given in chapter 3 of the EIA study.

In the submitted EIA study, it is also stated that in accordance with requirements of BAT 9 (as well as BAT 11) of the BATC WI 2019, detailed control of all relevant parameters of waste intended for thermal treatment will be subject of pre-acceptance and acceptance procedures, in respect to relevant EU and national regulation.

The authors point out that incinerators are conclusively recognized by the industry and EU member governmental bodies as dioxin and furan destruction facilities, since they destroy more dioxins and furans than they produce, as demonstrated in the following linked documents:

- https://www.bmk.gv.at/dam/jcr:40b93468-8ffc-4581-a7f3-a0dedec04350/Whitebook_Waste_to_Energy.pdf (see page 52)

- www.abfallratgeber.bayern.de/publikationen/abfallbehandlung/doc/muellverb.pdf (see abiding 20)
- https://epub.sub.uni-hamburg.de/epub/volltexte/2009/2846/pdf/dioxinbilanz.pdf (see Tabelle 25)

These studies conclusively demonstrate that such facilities destroy named pollutants and as such contribute to the general environment conditions, in other words, this is a direct contribution to human health.
A similar conclusion can be found for heavy metals and Hg, where official findings of the German government demonstrate a net positive effect of incineration it the following document:

- (https://www.itad.de/wissen/studien/2005_abschied_von_der_dioxinschleuder.pdf)

The cumulative air emission impact on air quality in the EIA Study is modeled with substantially exaggerated parameters, as the modeling assumptions considered that all emissions will be simultaneous through each emission source in its maximum limit values and under most unfavorable meteorological conditions. Nevertheless, according to the modelling results, performed air emission study comprehensively concludes that the impact of the subject project installations would be marginal with limited synergistic effect. The potential influence on the larger area air quality is marginal, meaning that there is no potential influence in neighboring area of Bulgaria.

In reality, Elixir intends to decarbonize its energy sources and use Waste-to-Energy source as a substitute for fossil fuels. Thereby, it should be pointed out that by using the Waste-to-Energy Plant instead of a coal boiler the emission situation will in general improve in comparison with current practices. Namely, if one compares PM emission from existing source E3 (please be referred to supplementary study issued by Faculty of Mechanical Engineering, University of Belgrade) and potentially new sources E18, E19 & E20, it can be concluded that net PM emissions reduction of 0,276 kg/h (23%) can be expected. Executing the same exercise for SOx and CO, the net reduction of emissions of 42,72 kg/h (95%) and 0,839 kg/h (19%), can be expected respectively.
Finally, the authors draw attention to the positive environmental and health aspects of the Waste to Energy plant in relation to the current waste management practice in Serbia, disposal at landfills which includes high fire risks and consequent pollution, as expressed in:

- https://www.activity4sustainability.org/wp-content/uploads/2024/08/WHITE-BOOK-ON-WASTE-TO-ENERGY-IN-SERBIA.pdf
- https://www.activity4sustainability.org/wp-content/uploads/2024/03/Supplementary-resources-FINAL.pdf

c) **"Assessment of the combined, complex, cumulative and remote impact of risk factors in emergency situations and incidents; human health risk assessment and proposal of health protection and risk management measures."**

In the EIA chapter 7, both accidents inflicted risks related to Waste-to-Energy Plant and Non-hazardous waste landfill are modelled in detail with issuing a subsequent protection requirement. These requirements are expressed in the EIA chapter 8, section 8.2 after conducting vulnerability analysis in the EIA section 7. The theoretical improbable most damaging scenarios are modeled and given within the EIA section 7 (Table 7.18 and Table 7.15).

Table 7.18 Assessment of the risk of accidents at the Waste-to-Energy Plant according to defined accident scenarios

Overview of accident scenarios	Probability	Consequences	Risk
1. Accidents at the liquid waste transfer point.	low	serious	medium risk
2. Accidents at the waste storage, i.e. in reception bunkers or bunkers for mixing solid hazardous waste.	low	significant	low risk
3. Fire with fuel tanks (upstairs).	low	significant	low risk
4. Uncontrolled discharges of liquid waste from IBC containers.	medium	significant	medium risk
5. Accident situations with waste sludge.	low	significant	low risk
6. Accident situations on the boiler plant and natural gas installation.	medium	significant	medium risk
7. Uncontrolled discharge of particulate matter from bag filters in the boiler plant.	medium	of little importance	low risk
8. Forced flue gas discharge to the stack without cleaning in the scrubber system.	medium	of little importance	low risk
9. Accidental situations on activated carbon dozers.	low	significant	low risk
10. Accidents with ammonia water.	medium	significant	medium risk
11. Accident situations in the stabilization and solidification facility W- C12.	low	significant	low risk
12. Modelling the effects of the hazardous substances emission in accidental situations at the Waste-to-Energy Plant to the watercourse of the Danube.	medium	of little importance	low risk

Accident effects were modelled using appropriate mathematical models and the ALOHA^R (Areal Locations of Hazardous Atmospheres) software program, developed by US EPA ALOHA^R and designed for professionals dealing with chemical accident issues to ensure quality assessment of vulnerable zones in case of chemical accidents and to enable quick responses to minimize consequences.
12 accident scenarios have been analysed as potential Waste-to-Energy Plant accident, classified in accoldance to level of potential consequences:

* Possible levels of accidents are expressed in five levels, as follows:

- **Level I of the accident:** level of hazardous installations - consequences of the accident limited to a part of the plant – there are no consequences for the entire complex,
- **Level II of the accident:** level of the complex – consequences of the accident limited to the entire complex - there are no consequences outside the boundaries of the complex,
- **Level III of the accident:** the level of the municipality or city – the consequences of the accident are extended to the municipality or the entire city,
- **IV level of the accident:** regional level – the consequences have spread to the territory of several municipalities or cities.
- **Level V:** international level – the consequences have spread beyond the boundaries of the RS.

Table 7.15 Estimation of the level of accidents at the Waste-to-Energy Plant according to defined accident scenarios

Number of Scenario	Accident Scenario	Accident level*
1	Accidents at the liquid waste transfer point.	II
2	Accidents at the waste storage, i.e. in reception bunkers or bunkers for mixing solid hazardous waste.	I
3	Fire with fuel tanks (upstairs).	I
4	Uncontrolled discharges of liquid waste from IBC containers.	I
5	Accident situations with waste sludge.	I
6	Accident situations on the boiler plant and natural gas installation.	I
7	Uncontrolled discharge of particulate matter from bag filters in boiler plant	II
8	Forced flue gas discharge to the stack without cleaning in the scrubber system.	II
9	Accidental situations on activated carbon dozers.	I
10	Accidents with ammonia water.	III
11	Accidental situations in the stabilization and solidification facility W-C12.	II
12	Modelling the effects of the hazardous substances' emission in accidental situations at the Waste-to-Energy Plant on the watercourse of the Danube.	III

The most important events are accidents classified as level II and level III. There are no accidental scenarios classified as level IV or level V, with full respect to the distances of the cross boarder municipalities of Bulgaria and Romania.

Accident clasified as level III, with the the highest reach which extends the boundaries of the subject project complex, is linked to accidents involving ammonia water, as the furthest range for toxic concentrations is 680 m. Effects of subsequent ignition remain within 11 m from the spill site, within the boundaries of the subject project complex.

From a perspective of extra precaution in the modelling step, a special Scenario number 12 (accidental situations at the Waste-to-Energy Plant) has been set to assess the impact of a potential accident on river Danube. A mathematical model for a continuous pollution source was applied, based on the FATE software (Faculty of Civil Engineering, Podgorica, https://www.ucg.ac.me.objava_130961) development. In the case of ammonia vapors, the fractions of ammonia, HCl, SO2 and NOx dissolving in the river surface were calculated based on the deposition velocity, whose value in this case is taken as 0.01 m/s (S.Hanna et al., Handbook on Atmospheric Diffusion, Oak Ridge, 1982.) – the effect of "acid rain". On the other hand, In the case of total particulate matter (PM), the portion of PM reaching the Danube River was calculated based on the deposition fraction flux from the turbulent diffusion equation, based on the calculated deposition velocity of the mean PM particle diameter.

The modelling results shown that the pollutant levels (PM and recalculated values of NH3, HCl, HF, SO2 i NOx) are far below the acceptable values, meaning that accident situations at the Waste-to-Energy Plant would not lead to pollution of the Danube River even in the worst-case scenario. as concluded in the following paragraph (page 516):

"Applying the above equation to the input parameters, it is concluded that the calculated pollutant levels (PM and recalculated values of NH3, HCl, HF, SO2 i NOx) are far below the previously stated values, meaning that accident situations at the Waste-to-Energy Plant do not lead to pollution of the Danube River from pollutants released into the air."
All the measures found to be necessary considering the subject project impact assessment, regulation and technology required are presented in the EIA chapter 8. included measures which must be taken to protect all factors of the environment and human health (plans and technical solutions for environmental protection), which relate to the construction, regular operation, termination of use or removal of the subject project, as well as measures for accident prevention during construction and operation, accident response measures and elimination of the consequences of the potential accident.

d) "**Taking into account the envisaged discharges of wastewater into the Danube River, an assessment of the future impact of the implementation of the investment proposal on the surface and groundwater and soils on the territory of the Republic of Bulgaria and hence on all water sources used for drinking and drinking purposes in the affected Bulgarian settlements, with or without an established sanitary protection zone, which are or could be affected as a result of the operation of the facilities.**"

Authors point out that in terms of both, air pollution and water (read Danube) pollution a cumulative approach has been adopted. Namely, in the EIA subsection 6.2.1.1.6 (and air quality modelling assessment studies provided as appendix) a cumulative emission study has been done considering current emissions from the existing installations of Elixir Prahovo. Similarly, in the modelling approach described in the EIA subsection 6.2.1.2.1 the effects on Danube water quality

have been assessed cumulatively considering treated wastewater quality of the existing installations within the area of industrial complex in Prahovo.
By comparing the results of the Danube River pollution modelling due to the discharge of collective wastewater from the existing Elixir Prahovo complex and the addition of the future subject project complex, it can be observed that no parameters exceed the concentration limit values of the tested parameters. Moreover, it should be borne in mind that based on the results of the "zero state" of the Danube River water quality, it can be stated that in its current state there is no to negligible (measured or assigned values noted to be below the detection limit are provided in EIA page 423) load of the polluting substances characteristic for expected wastewater to be discharged from the future subject project complex. Bearing in mind the above, as well as the fact that all pollutants in wastewater from the subject project installations will be below the Emission Limit Value (ELV) prescribed by the conclusions on the best available techniques and BREF WI documents from 2019. (Commission implementing decision (EU) 2019/2010 of 12 Nov. 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration), it can be stated that after putting the subject project into operation, there would be no cumulatively higher values of the concentration of polluting substances in the collective wastewater discharged into the Danube River. Flow modelling additionally shows that concentrations already 100 m downstream from the wastewater outlet are negligible. At 100 m downstream from the outlet is the relatively highest load (in relation to the limit value) of chemical Oxygen Demand (COD), which is 22 times less than defined by the Regulation on limit values of polluting substances in surface and underground waters and sediment and deadlines for reaching them (Official Gazette of RS, No. 50/2012).
On the other hand, among the parameters not regulated by the Regulation, the highest relative load (in relation to the limit value) is Tl (Thallium), which is 1667 times less than the concentration prescribed by the conclusions on the best available techniques and BREF WI documents from 2019 (Commission implementing decision (EU) 2019/2010 of 12th November 2019 establishing the best available techniques conclusions (BATC), under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987)).
Additionally, modelling the effects of pollutant emission into the air from the subject project even under the most unfavorable weather conditions, and in the case of accidental situations with the most damaging scenarios of air pollutants release, didn't indicate any impact on the quality of Danube.
Determined concentrations 100 m and 200 m downstream of the treated wastewater discharge point are negligible in concentration and to a large level barely if at all detectable. The study results conclusively showed that there would not be any violation of emission limits outlined for such installations and, more importantly, deterioration of Danube water quality as a consequence of the subject project execution.
After expressing all the issued facts, it is concluded that there cannot be any harmful influence on the River Danube which could in any way have an effect on population health neither of Negotin municipality nor the cross-border municipalities.
Considering the conclusions that Danube quality would not deteriorate as a consequence of the subject project implementation, it can be concluded that there are no possibilities that any downstream connected river system and/or connected underground water sources could be affected, nor could any associated impact on human health be expected.

In all modelling approach it has been demonstrated that the effect on air and water quality in Bulgaria by implementation of the subject project would be negligible. Therefore, this conclusion stands for any transboundary location in Bulgaria as well.

e) **"A dedicated section, based on the other sections of the EIA report should be prepared, analysing the potential for transboundary impacts on human health and measures to prevent and mitigate them."**

The comment is well noted. Dedicated section will be prepared and implemented in the EIA study, as the summary of analyzed potential transboundary impacts on human health and measures to prevent and mitigate them.

Executive Summary of the Environmental Impact Assessment (EIA) for the Waste-to-Energy Plant and Non-Hazardous Waste Landfill in Prahovo

GLOSSARY OF TERMS

Waste-to-Energy Plant — Installation designed for the thermal treatment of non-recyclable hazardous and non-hazardous waste, where 30 MW of thermal energy is recovered from the fluid bad waste incineration process. WtE Plant Prahovo includes several buildings and facilities that together represent this technical - technological whole (waste storages, waste pretreatment facility, WtE boiler facility, flue gas cleaning system, wastewater treatment facility, facility for stabilization and solidification of thermally treated waste residues, administrative and other supporting units). WtE process plays a key role in reducing greenhouse gas emissions by utilizing waste as an energy source, replacing fossil fuels. In the Appendix to the EIA, term „Plant for energy utilization" is used as equivalent.

Non-Hazardous Waste Landfill — Installation designed for landfilling of stabilized and solidified waste residues from WtE Plant Prahovo, exclusively. Acceptance of waste for landfilling is predicated on demonstrating compliance with non-hazardous leaching criteria set for non-reactive waste class according to national and EU regulation. In the Appendix to the EIA, term „Landfill of non-hazardous waste" is used as equivalent.

The Subject Project — Refers to the both Waste-to-Energy Plant and Non-Hazardous Waste Landfill, located in the dedicated area of industrial chemical complex of Prahovo. The Subject Project aims to modernize waste management practices, reduce carbon emissions, and support sustainable energy production for constant need of Elixir Prahovo production processes.

Elixir Group — A Serbian business entity engaged in the production of phosphoric acid and mineral fertilizers, operating across several locations in Serbia, including two existing industrial chemical complexes - one in Prahovo, municipality of Negotin and the other in municipality of Šabac. As the mother company with over 2,000 employees across 13 member companies, the Elixir Group is the driving force supporting development and financing of the Subject Project.

Elixir Prahovo — A subsidiary of Elixir Group located in the dedicated area of industrial chemical complex in Prahovo, specializing in phosphoric acid and mineral fertilizer production, with constant need of thermal energy for its production processes.

Elixir Craft — A subsidiary of Elixir Group, specializing in providing range of industrial services for the Elixir Group subsidiaries operating in both industrial chemical complexes of Prahovo and Šabac. In accordance with the planned investments and operations development, the Elixir Craft has registered the Eco Energy branch, located in the dedicated area of industrial chemical complex in Prahovo.

Investor	Elixir Craft – Eco Energy branch is defined is the Investor of the Subject Project as well as the future operator of both installations - the Waste-to-Energy Plant and the Non-Hazardous Waste Landfill.
Industrial Chemical Complex in Prahovo	The existing industrial chemical site located in Prahovo settlement, municipality of Negotin, developed over several decades since the period of the former Yugoslavia. After privatization in 2013. this site is owned by Elixir Group and its subsidiaries. Elixir Group subsidiaries operating within this site are Elixir Prahovo, owner of the existing installations specializing in the production of phosphoric acid and mineral fertilizers, and Elixir Craft, with its facilities and workshops specializing in providing of industrial services for Elixir Prahovo. Within this site is determined the suitable undeveloped land-plot dedicated for the construction of the Subject Project installations.
Seveso Complex	A classification for industrial sites that handle large quantities of hazardous substances, subject to strict safety regulations under the EU Seveso Directive.
Accident Scenarios	Scenarios of potential industrial accidents involving hazardous substances, such as chemical spills, explosions, or fires. These scenarios are used to develop preventive and emergency response measures to minimize harm to people and the environment.
Emission modelling	Process of simulating and predicting the environmental impact of emissions (air, water, soil, noise, etc.) from industrial activities. This involves using advanced modelling techniques to assess potential emissions from installations like the Subject Project, ensuring compliance with regulatory limits and minimizing environmental impact.
Prevention measures	Set of preventive actions and practices, in accordance with the best available techniques, implemented to prevent accident scenarios and environmental harm in compliance with national and EU regulations. These measures ensure safe storage, handling, and treatment of hazardous substances, as well as the installation of automatized detection systems, proper ventilation, operating procedures and emergency response protocols to mitigate any potential EHS risks (Environmental, Health, Safety).
Monitoring program	Systematic measuring and analyzing of environmental impact indicators and pollutant emissions as required by national laws and EU directives. The Investor is responsible for developing a monitoring plan that defines the frequency, types of pollutants, and methods for measuring the effectiveness of pollution prevention measures. Data from the monitoring program must be regularly submitted to the relevant authorities.

Introduction

Elixir Group is a Serbian business system specializing in the production of phosphoric acid and complex mineral fertilizers. The Group operates across four locations in Serbia, including two existing industrial chemical sites, one in Prahovo, municipality of Negotin and the other in municipality of Šabac, with over 2,000 employees across 13 member companies.

In pursuit of more responsible and sustainable development of its production facilities, Elixir Group has initiated the investment cycle focusing on implementing circular economy concept, recourse efficiency and decarbonization of production value chain in both industrial chemical sites.

Planned investments in industrial chemical site in Prahovo, municipality of Negotin, aims to modernize production of Elixir Prahovo, member company engaged in phosphoric acid and mineral fertilizer production, maximize resource efficiency and accelerate the transition to alternative and renewable energy sources.

Therefore, Elixir Group via its subsidiary **Elixir Craft - Eco Energy branch, as the Investor**, envisions investment in the project of a Waste-to-Energy Plant construction on cadastral parcels 1420/1, 1420/4, 1491/1, 1541/1, 1541/2, 1552, 5824/1, 6513/1, 6513/2 on the cadastral map of Prahovo, municipality of Negotin, and phased construction of a Non-Hazardous Waste Landfill within the industrial chemical complex in Prahovo on cadastral parcels number 2300/1, 1491/1 and 1541/1 Prahovo, municipality of Negotin (hereinafter: the Subject Project).

Through the Subject Project, Elixir Group aims to decarbonize its energy sources and substitute using of fossil-based fuels for production of heating energy needed for phosphoric acid production of Elixir Prahovo, contributing to global efforts to combat climate change and protection of the environment.

The Subject Project includes the construction of two technologically connected installations:

- Waste-to-Energy Plant and
- Non-Hazardous Waste Landfill.

Both above mentioned installations of the Subject Project will be located within the area of industrial chemical complex in Prahovo, municipality of Negotin, where also are located the existing production installations of Elixir Prahovo which are constant heating energy consumers.

Waste-to-Energy Plant is based on bubbling fluidized bed technology for waste incineration with a combustion chamber of a 30 MW thermal power. The purpose of the Subject Project would be to thermally treat non-recyclable hazardous and non-hazardous waste with energy recuperation higher than 0,7 according to R1 calculation applicable for such installations. The energy would be utilized for production of Low-Pressure Steam (LPS). LPS is currently utilized in the phosphoric acid concentration within Elixir Prahovo production process. The investment would thereby phase out current LPS based on fossil fuels. Consequently, such investment reduces greenhouse gas emissions in the full scope of material lifecycle.

Non-Hazardous Waste Landfill is designed for disposal of stabilized and solidified thermal treatment waste residues from WtE Plant, exclusively. It includes use of advanced non-filtrable membrane which prevent leachate from contaminating soil and underground water, as well as systems for leachate drainage, collection and processing in a wastewater treatment facility of the Waste-to-Energy Plant, complying with best available techniques and strict environmental regulations. Acceptance for landfilling is predicated on demonstrating compliance with non-hazardous leaching criteria set for non-reactive waste class according to national and EU regulation.

The Subject Project would be aligned with EU Waste Directive favorizing incineration of non-recyclable material over landfilling. Moreover, such investments are intended to improve the national waste management efforts, while supporting the overall goal of decarbonation, addressed as one of the key principles for sustainable and low-carbon development in the Green Agenda for Western Balkans.

1. Project description

The technology necessary for safe and effective thermal treatment of waste is well established. Only in EU there are nearly 500 Waste-to-Energy (WtE) plants in operation across 23 European countries (according to CEWEP: Confederation of European Waste-to-Energy plants), yielding large industrial experience in the field. The selected partner with proven field track record in engineering design is Austrian company "TBU Stubenvoll" GMBH[1]. The proposed design encapsulates experience accumulated in the field with state-of-the-art technical solutions.

Upstream of the boiler the process incorporates liquid waste loading to the working buffer storage tanks, solid waste shredding, shredded solid waste mixture homogenization, nitrogen blanketed shredding of multiphase hazardous waste and sludge loading to a buffer tank. Prepared waste is fed to the boiler using dossing screw or special pumps connected to supercritical nozzles for atomization. Waste combustion is performed in sub-stoichiometric and stoichiometric zone of the boiler. The lower zone with the sand bed is characterized by sub-stoichiometrically condition, which is the basic requirement for controlling the process while mixing combustion air and recirculation gas. In the upper boiler zone, gases coming from the bottom boiler zone are mixed with the upper secondary air. The nozzles are arranged to create a vortex movement of the gas. Flue gases enter this zone sub-stoichiometrically and react with secondary air in the turbulent flow zone. At the end of this reaction, the flue gases have an excess of oxygen and a temperature between 850°C and 950°C. The retention time after the secondary air level injection is minimum 2 seconds or even longer. Consequently, three most important parameters for molecule decomposing are met, turbulence, temperature and retention time.

Most sophisticated part of the Waste-to-Energy Plant is the flue gas cleaning system (flue gas treatment). In the first step a cyclone battery removes large particles. Downstream, activated carbon filter adsorbs dioxins, Hg and heavy metals from the stream before being separated in the 6-chamber bag filter. The gases are then directed to a 2-step scrubbing process where chlorides, fluorides, heavy metals and SOx are removed. Finally, before emitting the flue gas on a stack, the gas is treated in a selective catalytic DeNOx process, where NOx is in reaction with ammonia water converted to nitrogen (N2) and water (H2O).

Wastewater generated on the Waste-to-Energy Plant includes the stream contaminated in the flue gas scrubbing process which is treated via 3 complementary neutralization steps (pH value and additives varied) and always followed by sedimentation process. In the final stage of neutralization, a flocculant agent is also added for easier contaminant separation. In case the treated wastewater does not meet the set quality control standards it is directed to column with sand filter followed by column with activated carbon, before ones again sent to the first neutralization step of the purification process.

Combustion process residues, bottom ash, cyclone ash, filter ash and scrubbing process residues are intended to be treated before disposal on Non-Hazardous Waste Landfill. Firstly, ferrous and non-ferrous metals will be separated from bottom ash as non-hazardous metals for recycling. Subsequently, non-recyclable material would be combined with other residues stream before all residues will be stabilized and solidified. Water should be added to the mixture to promote completion of chemical reactions. After a minimal stabilization time of 10 days, the mixture should be reacted with cement and additives to solidify contaminants in a concreate crystal structure. Solidified structure would be disposed on a specially designed Non-Hazardous Waste Landfill with a protective textile membrane on top of high-density polyethylene membrane with a filterability of 10^{-7} (GRI Test method GM 13 "Test Methods, or European standard EN 134934). Material to be positioned on the membranes is selected to control the water filterability and rate of flow to the non-filtrable membrane, which prevents leachate (contaminated water) to reach the soil and underground water. The leachate would be drained and directed for processing in the wastewater treatment facility. The processing strategy is intended to control the

[1] TBU Stubenvoll GmbH References List: ABRG DRO (AT), ABRG WSO (AT), ABRG WSO new (AT), AVN 1,2 (AT), AVN 3 (AT), Kralupy (CZ), Malta (M), Monthey (CH), Moscow (RU), RVL Lenzing (AT), Villas (AT), Villas II (AT). For more details, you can visit their official website: TBU

quality of leachate to meet the non-hazardous waste requirements, while collection and drainage does not allow release of the leachate to the environment.

Adopted technical solutions have been developed fully in compliance with the applicable laws and by-laws of Republic of Serbia as well as Commission implementing decision (EU) 2019/2010 of 12th November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987), Commission Implementing Decision (EU) 2018/1147 of August 10th 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (notified under document C(2018) 5070), Commission reference document on Best Available Techniques on Emissions from Storage (July 2006) and Directive (EU) 2018/850 of the European Parliament and of the Council of May 30th 2018 amending Directive 1999/31/EC on the landfill of waste.

2. Location selection & current state of the environment

There are very limited thermal treatment capacities for non-hazardous and hazardous waste treatment in Serbia, affecting business development sustainability. Alternative way of handing produced industrial waste is export to treatment facilities in the neighboring and EU countries. It is clear that such practices increase the emissions induced via transport, create long administrative process with elevated costs. Consequently, increasing the capacities of treatment would improve the waste management practices, elevate the economic effect of business activities and reduce energy dependency on third parties. Successful implementation of such a project requires an industrial zone with established production practices and constant consumption of energy recovered. Due to these factors and most importantly constant energy need of Elixir Prahovo production process, Investor considers the location within the area of existing industrial complex in Prahovo as suitable for the Subject Project implementation.

Produced energy would reduce the need for LPS production using fossil-based fuels, on aggregate project implementation would have a positive effect on the overall greenhouse gas emissions (Product Life Cycle Analysis). Water utilization as a resource would not change on the location, as the amount of produced steam would not change. Moreover, any water treatment results in a wastewater release to the original water source and/or recipient, Danube River.

Emissions in air have been considered within the process of location selection; emission synergies are carefully analyzed while flue gases characterized for such facilities do not impose a cumulative large influence. Current state of the environment has been assessed before any modelling has been conducted, all measurement has been done by accredited bodies.

The study considered the biodiversity representative for the larger area, including neighboring Bulgaria and Romania, potentially affected by the project. It has been concluded that the eradication of the Meslan forest of gray pedunculate and the drainage of the floodplain of ponds and wetlands in the 1930s, and the construction of HPP "Đerdap II" permanently destroyed natural potential vegetation, and with it the accompanying fauna. The area is dominated by anthropogenic communities. Current vegetation, flora and fauna are of secondary origin and are of no protection interests. Study also found that negative effects on the fish fauna are mainly due to the impact of the HPP dams "Đerdap I and II", which prevent migration upstream and downstream, affect the flow regime and cause large oscillations in the water level, above, between and in the part of the flow below the dams. These significant changes caused changes in the ichthyofauna of the Danube. Migratory fish species such as sterlet and barbel, which favor the faster flow, have migrated to the upstream part of the Danube, while species such as bream showed intensive growth in the newly formed reservoirs.

3. Emission modelling

Influence on the environment has been studied cumulatively taking into account impact specific for the existing industrial activities within the existing industrial chemical complex in Prahovo, particularly air emissions, wastewater emissions, soil contamination, noise, etc. State-of-art rigorous modelling approach took theoretical maximal allowed emissions from the considered technical solutions. Dominant influence of Waste-to-Energy Plant would be reflected in air and wastewater emissions. Other induced influence is minimized to marginal due to either nature of the project and/or selected technical solutions. On the other hand, Non-Hazardous Waste Landfill is considered as a potential source of dust emissions. Leachate and contaminated soil induced effects are not possible in regular operations of neither Waste-to-Energy Plant nor Non-Hazardous Waste Landfill.

3.1. Waste acceptance for thermal treatment

The Subject Project documentation defines that waste containing more than 1% of halogen organic substances expressed as chlorine cannot be treated in the Subject Waste-to-Energy Plant. It is strictly forbidden to receive waste that is explosive, flammable, infectious, radioactive, waste materials containing or contaminated with polychlorinated biphenyls (PCBs) and/or polybrominated triphenyls (PCTs) and/or polybrominated biphenyls (PBB), waste containing cyanides, isocyanates, thiocyanates, asbestos, peroxides, biocides, cytostatics, electronic waste. Additional restrictions on admission to the subject Waste-to-Energy Plant are waste substances in the form of aerosols, as well as organometallic compounds (spent metal-based catalysts, or organometallic wood preservatives) and aluminized paints. Moreover, the subject WtE installation will not accept infectious, explosive, flammable and waste which releases toxic gases in reaction with water. Waste pre-acceptance and acceptance procedure define in which way is the documentation, characterization with assurance and control performed within the process of waste reception. After reception the waste would be prepared for the thermal process, to prevent emissions and odors a significant number of measures are foreseen, i.e., special design is made. After reception gates are closed, while the air from the separation is succeed with a vacuum system and directed to the combustion process. Similarly, in special preparation lines, liquid and sludge lines, nitrogen is used for blanketing. In case the boiler is not in operation, the vacuum system from the storage and waste shredding allows for gases to be directed to the filtering system consisting of a waste pretreatment filter system and activated carbon filter.

3.2. Air emissions

Atmospheric dispersion models of pollutants are used to determine the concentration of pollutants in flue gas during the removal of the smoke plume from the source of emissions, and to estimate their ground concentrations. The dispersion model represents the mathematical expression of the influence of atmospheric processes on pollutants in the atmosphere. Atmospheric conditions (which include wind speed and direction, air temperature and mixing height) are simulated using dispersion models, and pollutant concentrations are estimated as they move away from the emitter. The software package AERMOD was used, i.e., a model based on the Gaussian distribution and recommended by the EPA (U.S. Environmental Protection Agency). AERMOD includes a wide range of capabilities for modeling the impact of pollutants on air pollution. The mentioned model provides the possibility of modeling several pollution sources, including point, line, surface and volume sources. The model contains algorithms for the analysis of aerodynamic flow in the vicinity of and around buildings. Modelling strategy considered all existing stack and surface emissions within the existing industrial chemical complex in Prahovo, as a current state of air pollutant emissions in the area. Additionally, a cumulative approach is considered where it is envisioned that with the Subject Project execution there would be 3 additional emitters:

- Emitter of the Waste-to Energy boiler - after the flue gas cleaning system which includes bag filters, activated carbon filters, scrubbers and SCR filter (selective catalytic DeNOx reduction)
- Emitter of the waste pretreatment filter stacks - after the bag filter and activated carbon filter

- Emitter of the stabilization and solidification of the thermal treatment residues - after the bag filters

Moreover, Non-Hazardous Waste Landfill is also taken into account as a potential surface emitter in the model.

Study included an impact zone of 50 km x 50 km, i.e., an area of 2500 km2 expressed in the form of Cartesian coordinate system with variable receptor distance (Multi-Tier Grid). Thereby, the model was set to assess the potential local as well as cross-border impact.

In order to define local prevailing meteorological parameters, hourly meteorological data for a specific location and for a period of five consecutive calendar years (2017 - 2021) were procured from Lakes Environmental Consultants from Canada. This dataset consists of information on the surface and upper atmosphere layers, which are required to run the dispersion model.

Emission of pollutants already characteristic for the industrial chemical complex in Prahovo would be negligible affected by the Subject Project implementation (Waste-To-Energy Plant & Non-Hazardous Waste Landfill), namely influence of the existing Elixir Prahovo and Phosphea emitters are dominating point source emissions. On the other hand, surface sources found in phosphor-gypsum storage area are dominating the emissions of dust (particulate matter). It was found that in the case of some components (SO2, PM10 and HF), there is a possibility of episodic high concentrations in the case of extremely unfavorable (from the point of view of dispersion) meteorological conditions. However, the number of hours/days with these concentrations is extremely small, i.e., there is low statistical probability of this happening. It has been established that the cause of these potential episodic elevated concentrations is the existing SO2 and HF emitters within the Elixir Prahovo, i.e., phospho-gypsum landfills in the case of PM10, both for the current and future situation. Therefore, these episodic emissions are not a potential consequence of the operation of the future Waste-to-Energy Plant and Non-Hazardous Waste Landfill. Moreso, potential zones with exceedances of the limit values of these components occur on uninhabited areas in the immediate vicinity of the property limit of the existing chemical industry complex in Prahovo. Pollutants components that are currently not emitted and that would be emitted only from the emitters of the Waste-to-Energy Plant (Hg and PCDD/F), the modelling results indicate that the concentrations would be far below the regulated limit values. Additionally, the results show that the emissions would be practically negligible from the aspect of PM10 and TVOC (indicator of odor emissions) in cases of Waste-to Energy boiler in or out of operations.

Comprehensively concluded, the modelling results indicate that that already active emission sources are dominating the air quality, while the added emissions related to Subject Project execution would be almost negligible. The impact of the Subject Project installations would be marginal with limited synergistic effect. The potential influence on the larger area air quality is marginal, meaning that there is no potential influence in neighboring area of Romania and Bulgaria.

3.3. ***Wastewater emissions***

Considered technical solutions do not allow for underground water contamination under normal operating circumstances. On the other hand, it is envisioned that there are 3 wastewater sources to be treated and discharged to the existing receiving collector of the industrial chemical complex in Prahovo, as a single collection point before being released to the final recipient, Danube River.

- The first wastewater source to be discharged to the receiving collector would be sanitary wastewater (separate sewage system collects waste sanitary-foul wastewater) threated mechanically and biologically. This stream is similar in quality with a regular municipal sewage water; thus, its cleaning is considered to be standard with limited threats for the receiving water body.
- The second wastewater source to be discharged to the receiving collector would be a stream of potentially oiled wastewater originated from roads, manipulative surfaces and parking lots. This source would be drained and directed for processed on oil/grease "bypass" separators before being discharged to the receiving collector.

- The third and potentially most contaminated wastewater source would be the stream originating from process wastewater treatment, which includes water from the drainage of the waste storage and boiler area, leachate from the Non-Hazardous Waste Landfill, wastewater from fire extinguishing, wastewater from process water preparation process and finally wastewater produced during Waste-to-Energy flue gas scrubbing (wet cleaning) process.

All these streams (abovementioned as the third wastewater source) would be treated on the wastewater treatment process with three stages of neutralization, sedimentation and flocculation, before being released to the existing central receiving collector and finally to Danube River.

The release of the atmospheric clean water (separate rainwater sewerage for the collection of clean atmospheric water from the roofs of buildings) would naturally be a non-contaminated source directly released to the central receiving collector.

Wastewater release to the existing central receiving collector and to the Danube River have been assessed cumulatively considering the currently measured emissions which are connected to existing industrial complex operation. Before attempting any modelling, the current values of contaminant concentration in Danube River upstream and downstream of the release point have been determined. For newly expected pollutant sources, concentration limits given by BAT conclusions (Commission implementing decision (EU) 2019/2010 of 12th November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C (2019) 7987)) have been taken as an overestimate of expected negative contribution of the Subject Project execution.

Release models consider the current flow of industrial complex wastewater release of 141.8 l/s, flow of wastewater from the oil separators 233 l/s, flow from fecal wastewater treatment 4 l/s and flow from the process wastewater treatment of 5 l/s, The model took into account the average flow rate of the Danube (at the Prahovo site) of 4,9 ·103 m3/s. Model implies that the outflow of wastewater disperses through the Danube River course in the form of a developed plume and in accordance with the hydrodynamic parameters of the Danube River (J. Rutherford Handbook on mixing in rivers, Water & soil miscellaneous publication, No. 26/1981, Wellington), taking into account transverse and vertical turbulent diffusion of pollutants in the river flow.

By comparing the results of the Danube River pollution modeling due to the discharge of collective wastewater from the Elixir Prahovo complex and the addition of the future Subject Project complex, it can be observed that no parameters exceed the concentration limit values of the tested parameters. Moreover, it should be borne in mind that based on the results of the "zero state" of the Danube River water quality, it can be stated that in the tested water in its current state there is no to negligable load of any of the polluting substances characteristic for expected wastewater release which will be discharged from the future Subject Project complex. Bearing in mind the above, as well as the fact that all pollutants in wastewater from the Subject Project installations will be below the Emission Limit Value (ELV) prescribed by the conclusions on the best available technologies and BREF documents from 2019. (Commission implementing decision (EU) 2019/2010 of 12 Nov. 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration), it can be stated that after putting the Subject Project into operation, there would be no cumulatively higher values of the concentration of polluting substances in the collective wastewater discharged into the Danube River. Flow modeling additionally shows that concentrations already 100 m downstream from the wastewater outlet are negligible. At 100 m downstream from the outlet is the relatively highest load (in relation to the limit value) of chemical Oxygen Demand (COD), which is 22 times less than defined by the Regulation on limit values of polluting substances in surface and underground waters and sediment and deadlines for reaching them (Official Gazette of RS, No. 50/2012). On the other hand, among the parameters not regulated by the Regulation, the highest relative load (in relation to the limit value) is Tl, which is 1667 times less than the concentration prescribed by the conclusions on the best available technologies and BREF documents from 2019 (Commission implementing decision (EU) 2019/2010 of 12th November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987)).

Additionally, modeling the effects of pollutant emission into the air from the Subject Project even under the most unfavorable weather conditions, and in the case of accidental situations with the most damaging scenarios of air pollutants release, didn't indicate any impact on the quality of Danube.

Determined concentrations 100 m and 200 m downstream of the treated wastewater discharge point are negligable in concentration and to a large level barrely if at all detectable. The study results conclusively showed that there would not be any violation of emission limits outlined for such installations and, more importantly, deterioration of Danube water quality as a consequence of the Subject Project execution.

3.4. Solid Waste Management

As above described all solid residues formed during the process are treated to incapsulate contaminants in the crystal structure of concreate after stabilization. This allows for management of waste in a sustainable manner on a Non-Hazardous Waste Landfill, which would be equipped with a non-permeable HDPE foil, thus the leachate would be drained and sent for treatment in the wastewater processing.

Acceptance of waste on the Non-Hazardous Waste Landfill is predicated on demonstrating compliance with non-hazardous leaching criteria set for non-reactive waste class according to national and EU regulation (NEN 7345 Leaching Characteristics of Soil and Stony Building and Waste Materials - Leaching Tests - Determination of the Leaching of Inorganic Components from Building and Monolithic Waste Materials with the Diffusion Test) which set the criteria for the solidified waste characterization to be accepted for landfilling. Consequently, the operating procedure specifies the need of taking samples of material after the stabilization and solidification process. In case of demonstrating compliance to the criteria the material would be accepted to be landfilled on the Non-Hazardous Waste Landfill. If case the material analysis would not demonstrate compliance to the criteria, it would be reverted to other operators for hazardous waste landfill and/or underground storage.

The management strategy prevents direct exposure of soil to solid waste, moreover the underground water sources are protected. The Non-Hazardous Waste Landfill operation itself would be monitored constantly via quality control piezometers. More precisely, soil and water quality will be monitored with preset frequency.

4. Accident scenarios

Detailed assessment of the consequences and risks at the Subject Project complex, defining the safety system, prevention and response measures in emergency situations, will be carried out through the development of Documents for operators of Seveso plants according to the provisions of the Law on Environmental Protection ("Official Gazette of the RS", nos. 135/2004, 36/09 and 36/2009 - other law, 72/2009 - other law and 43/2011 – CC decision, 14/2016 and 95/2018). Pursuant to the provisions of the Seveso Directive on the control of major accident hazards involving dangerous substances, i.e., article 58 of the Law on Environmental Protection and the Rulebook on the list of hazardous substances and their quantities and criteria for determining the type of documents prepared by the operator of the Seveso plant or complex, taking into account the maximum possible quantities of hazardous substances that may be present at any time within the Subject Project complex, as in Table 1 - List of dangerous substances and limit values thereof (ordinal number 11, 33 and 40), as well as in Table 2 – List of dangerous substances category and limit values thereof (Section "H" - HEALTH HAZARD, Section "P" – PHYSICAL HAZARDS, Section "E1" and "E2" HAZARD for the AQUATIC ENVIRONMENT), the status of the Subject Project was determined.

It was noted that the the Subject Project represents a "higher order" Seveso complex and therefore it is the obligation of the Investor, in terms of accident risk management obligations, to prepare a Safety Report and an Accident Protection Plan and obtain the consent of the competent authority. Considering that these documents as well as the project documentation will envisage all necessary measures in order to prevent and minimize the consequences of the accident, we believe that the only impacts that can be significant for the environment (accident situations) due to the operation of the Subject Project will be limited by these documents. It is the obligation of the Investor to prepare both the Final Fire Protection Design and the Fire Protection Plan in accordance with the Law on Fire Protection ("Official Gazette of the RS", Nos. 111/2009, 20/2015, 87/2018 and 87/2018 – other laws) and to obtain the consent of the competent Ministry of the Interior, Republic of Serbia.

4.1. Waste-to-Energy Plant accident scenarios

12 scenarios have been analysed as potential Waste-to-Energy Plant accident, classified in accoldance to level of potential consequences:

- level II (level of the complex – consequences of the accident limited to the entire complex - there are no consequences outside the boundaries of the complex)
- level III (the level of the municipality or city – the consequences of the accident are extended to the municipality or the entire city)
- level IV (regional level – the consequences have spread to the territory of several municipalities or cities) and
- level V (international level – the consequences have spread beyond the boundaries of the Republic of Serbia).

These occurances consider liquid weste spilage, dust discharge, gas leakage, gas formation followed with toxic contaminate spread or fire initiation with toxic gas formation. Accident effects were modelled using appropriate mathematical models and the ALOHA[R] (Areal Locations of Hazardous Atmospheres) software program, designed for professionals dealing with chemical accident issues to ensure quality assessment of vulnerable zones in case of chemical accidents and to enable quick responses to minimize consequences. The program, developed by US EPA ALOHA[R], successfully models three types of risks: toxic gas dispersion, fires, and explosions. For gas dispersion modelling (release of toxic substances), ALOHA[R] uses the Gaussian dispersion model. According to this model, wind and atmospheric turbulence are forces that move the released gas molecules through the air, and turbulent mixing and lateral wind allow the cloud to spread in multiple directions. At the moment of hazardous gas release, the concentration of the pollutant is very high, but as it moves away from the accident site, the concentration decreases. ALOHA[R] models three levels of hazard for toxic gas dispersion.

The most important events are accidents classified as level II and level III. There are no accidental scenarios classified as level IV or level V.

Accident clasified as level II, with consequences limited to the boundaries of the Subject Project complex, is accidental leak at the liquid waste transfer point, uncontrolled discharge of dust (total particulate matter) from flue gas bag filter, forced flue gas discharge to the stack without cleaning in the scrubber system and accidental situations in the stabilization and solidification facility.

Accidental leak at the liquid waste transfer station involving a tank truck fire for about 30 minutes, leading to BLEVE (Boiling Liquid Expanding Vapor Explosion) effect is considered to be the worst case scenario accident. This would potentially include contained within a range of up to 57 m, some of the accompanying effects, such as shock waves and fragments from the potential tank truck explosion, could extend beyond the Waste-to-Energy Plant's area. However, toxic concentrations for CO, NOx, SO2, and soot remain below hazardous levels in the vicinity of the Waste-to-Energy Plant, classifying this accident scenario as Level II, meaning the consequences are limited to the boundaries of the Subject Project complex, with no impact beyond its boundaries.

Accident clasified as level III, with the the highest reach which extends the boundaries of the Subject Project, is linked to accidents involving ammonia water, as the furthest range for toxic concentrations is 680 m. Effects of subsequent ignition are within the boundaries of the complex, and the subsequent ignition effects remain within 11 m from the spill site.

By implementing protective measures in accordance with technical standards across construction, electrical, technological, and mechanical engineering, along with adhering strictly to relevant regulations and operational guidelines, the risk of accidents (such as fires, explosions, and spills) is minimized. Regular technical inspections and proper WtE installation maintenance also help prevent such accidents. In case of an accident, local emergency interventions will be conducted following established instructions and standards. For larger-scale accidents, the remediation process will be coordinated in collaboration with competent institutions to ensure proper management and resolution.

Special attention has been given to the effects of hazardous substance emissions in accident situations at the Waste-to-Energy Plant on the Danube River. For modelling pollution on the river flow, a mathematical model for a continuous pollution source was applied, based on the FATE software (Faculty of Civil Engineering, Podgorica, https://www.ucg.ac.me.objava 130961) development. In the case of ammonia vapours, the fractions of ammonia, HCl, SO_2 and NO_x dissolving in the river surface were calculated based on the deposition velocity, whose value in this case is taken as 0.01 m/s (S.Hanna et al., Handbook on Atmospheric Diffusion, Oak Ridge, 1982.) – the effect of "acid rain". On the other hand, in the case of total particulate matter (PM), the portion of PM reaching the Danube River was calculated based on the deposition fraction flux from the turbulent diffusion equation, based on the calculated deposition velocity of the mean PM particle diameter.

The modelling results shown that the pollutant levels (PM and recalculated values of NH_3, HCl, HF, SO_2 I NO_x) are far below the acceptable values, meaning that accident situations at the Waste-to-Energy Plant would not lead to pollution of the Danube River even in the worst case scenario.

The Subject Project is clasified as a "higher order" Seveso complex and therefore it is the obligation of the Investor, in terms of accident risk management obligations, to prepare a Safety Report and an Accident Protection Plan and obtain the consent of the competent authority (Ministry of Environmental Protection, Republic of Serbia).

4.2. ***Non-Hazardous Waste Landfill accident scenarios***

Two scenarios have been analysed as potential Non-Hazardous Waste Landfill accident, migration of contaminants and leakage of contaminated leachate causing groundwater contamination both in case of cracking of HDPE foil. After analysing the possible consequences due to these accidents, the occurances are assessed as low in likelihoud and of low significance in magnitude.

Molecular diffusion of two saturated layers occurs, in conditions where there is no flow, so that the transport of the contaminant occurs due to flux from the higher concentration zone to the lower concentration zone, it can be concluded that it takes more than 100 years for the concentrations at a distance of 5 m to be 0.5 % of the initial value. By increasing the distance, as well as the time, this value becomes negligibly small. In the presented case, it is clearly evident that diffusion is not a rapid process and is the prevailing mechanism of transport of contaminants in conditions of poorly permeable to watertight formations.

The scenario of leakage of contaminated water, leachate, from the landfill into the aquifer, causing contamination of groundwater, and consequently their drainage into the Danube watercourse, represents the most unfavorable possible accident scenario of the movement of contaminated groundwater, which has reached the groundwater level and is still transported by advective transport. The obtained results for a period of ½, 1 and 2 years and a distance of up to 500 m, refer to the hydrodynamic dispersion of the inert tracer (chloride) without retardation, shown that after 1 year the pollutions would reach a point 125 m from the location of release and 500 m after 2 years.

Metals are characterized by large sorption in the soil, the effect is dependent on the pH of the soil, thereby multiple scenarios are considered. In case of pH 4,9 the value would be almost 500 times lower than the initial one at 20 m after 2 years. In case of pH 6,8 the retardation is larger, thereby the pollution transfer is even less a concern.

The study results conclusively indicate that there is sufficient time to react in case of accidents involving leakage of contaminated leachate in case of cracking of HDPE foil of the Non-Hazardous Waste Landfill, imposing limiting risks for the environment.

5. *Prevention measures*

All foreseen environmental harm and accident prevention measures have been developed fully in compliance with applicable laws and by-laws of Republic of Serbia as well as the following:

- Commission implementing decision (EU) 2019/2010 of 12th November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C (2019) 7987);[2]
- Commission Implementing Decision (EU) 2018/1147 of August 10th, 2018, establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (notified under document C (2018) 5070);[3]
- Commission reference document on Best Available Techniques on Emissions from Storage (July 2006)[4]
- Directive (EU) 2018/850 of the European Parliament and of the Council of May 30th, 2018, amending Directive 1999/31/EC on the landfill of waste;[5]

Moreover, all national legislation strongly corresponding EU regulatory framework has also been considered and the developed technical, operation and organizational strategies are fully compliant with the requirements. The Subject Project is considered as a high-order Seveso complex, thereby preparation of the Safety Report and an Accident Protection Plan is mandatory including obtaining approval from the competent authority (Ministry of Environmental Protection, Republic of Serbia).

Finally, operating procedures are subject to the Waste Framework Directive (The Waste Framework Directive 2008/98/EC of the EU Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives and its amendments (2018)) 6 and corresponding Serbian Law on Waste Management7 and Law on Integrated Prevention and Control of the Environmental Pollution8.

In order to familiarize employees with preventive fire protection measures as well as with the use of fire extinguishing agents, training and testing of employees should be carried out. It is the obligation of the Investor (as the future Operator) to develop a Training Program of Employees for Fire Protection according to the Law on Fire Protection9, and in accordance with the Rulebook on the minimum content of the general part of the training program for workers in the field of fire protection10 and to obtain the approval of the relevant authority. For each planned civil unit within the Waste-to-Energy Plant, the basic requirements from the aspect of fire protection are defined in accordance with the applicable regulations in this area. System design allows for early detection, alarming and response of the operation personnel.

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[2] Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)
[3] Implementing decision - 2018/1147 - EN - EUR-Lex (europa.eu)
[4] Waste Incineration | EU-BRITE (europa.eu)
[5] Landfill Directive - Directive (EU) 2018/850 | Circular Cities and Regions Initiative (europa.eu)
[6] Directive - 2008/98 - EN - Waste framework directive - EUR-Lex (europa.eu)
[7] "Official Gazette of the RS", no. 36/2009, 88/2010, 14/2016, 95/2018 - other law and 35/2023, *Available at* Zakon o upravljanju otpadom (paragraf.rs)
[8] "Official Gazette of the RS", No. 135/2004, 25/2015 and 109/2021, *Available at* Zakon o integrisanom sprečavanju i kontroli zagađivanja životne sredine (paragraf.rs)
[9] "Official Gazette of the RS", no. 111/2009, 20/2015, 87/2018 and 87/2018 - other laws, *Available at* Zakon o zaštiti od požara (paragraf.rs)
[10] "Official Gazette of the SRS", no. 40/1990 *Available at* https://pravno-informacioni-sistem.rs/SlGlasnikPortal/eli/rep/sgsrs/ministarstva/pravilnik/1990/40/1/reg

The Subject Project foresees its own fire station and fire brigade, in addition to which in case of need it is possible to hire 2 more fire brigades equipped to react: Elixir Prahovo and Negotin municipality fire brigades. In case of unwanted events remediation procedures exist, setting monitoring measures and or special handling of residual contaminated waste (e.g., fire extinguishing wate, contaminated soil, etc.).

Both regulatory framework and technical operating requirements set a need for constant availability of responsible expert personal. Among the staff, expert chemists would be needed with responsibilities linked to pre-acceptance and acceptance procedures of waste, waste testing, stabilized and solidified waste compliance testing with landfilling criteria requirements. Complementary, an expert for waste regulatory framework would be necessary, while verification of full compliance of the regulatory framework is mandatory within the scope of work, it would also be necessary to execute a sophisticated reporting schedule. Responsibility for the full operation of the Subject Project in terms of environmental protection must be given to the Environmental Health and Safety expert, as a EHS Manager. Naturally the operation of the Waste-to-Energy installation must be guided by an expert in that field, as a Technical Manager. Responsibility and scope delegation would be determined by the operating procedures which include but are not limited to, equipment operating procedures, start and shutdown procedures, maintenance procedures, waste pre-acceptance and acceptance procedure, waste movement reporting procedure (including waste recycling preparation, waste thermal treatment and waste disposal), equipment calibration and certification procedures, R1 calculation procedure, safety report development procedure, accident protection plan development procedure, fire protection system maintenance and testing procedure, environment state monitoring plan report development procedure, emergency situation reaction procedure, eco-management and audit scheme verification procedure.

Prevention measures are taken within design to avoid hazard circumstances and/or to prevent magnitude in case of an event. Thereby, material storage would be segregated maximally allowable by process unit co-dependency, installation of significance concentration detectors for H2, CH4, CO, H2S and NH3 are envisioned on locations outlined as potentially hazardous zones. Complete Subject Project complex would be equipped with signalization of gas detection. Moreover, design measures are taken for the regular operations of the Subject Project installations to avoid incomplete waste treatment, unpleasant odours or uncontrolled emissions.

Furthermore, it is foreseen that the waste incineration boiler will be equipped with at least one auxiliary burner which must be activated automatically when the process gas temperature drops below 850°C. Air ventilation system is designed with large capacity to prevent harmful gas accumulation in an event of hazardous scenario unravelling. Waste storage system would be kept under vacuum with automatic direction of the gas to the combustion burners. At the same time the vacuum would be directed to the filter system with activated carbon in case the boiler is not in operation. Moreover, the liquid waste, sludge and hazardous waste preparation would be nitrogen blanketed to prevent any release of gas to the environment.

Most of these practices are well defined within Commission implementing decision (EU) 2019/2010 of 12th November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987) 11, Commission Implementing Decision (EU) 2018/1147 of August 10th 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (notified under document C(2018) 5070)12 and Commission reference document on Best Available Techniques on Emissions from Storage (July 2006) 13. The best practices set by these documents are as well the basis for procedure development, emission monitoring and reporting requirements of the Waste-to-Energy Plant. In order to minimize the Subject Project influence on the surrounding environment, the designers as well based the above-described technical solutions on BAT described in the EU reference documents.

[11] Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)
[12] Implementing decision - 2018/1147 - EN - EUR-Lex (europa.eu)
[13] Waste Incineration | EU-BRITE (europa.eu)

6. *Monitoring programme*

In accordance with the Law on Environmental Protection[14], and according to Article 72, the Investor (as the future Operator) is obliged to monitor emission indicators, i.e. indicators of the impact of its activities on the environment and indicators of the effectiveness of applied measures for preventing the occurrence or reducing the level of pollution. The Investor is obliged to develop a monitoring plan, which will define the dynamics of monitoring and the type of pollutants to be measured. The Investor shall submit the data on the performed monitoring to the competent authorities within the legally prescribed deadline. An environmental impact monitoring program already exists at the location of the industrial chemical complex in Prahovo, and monitoring reports are regularly submitted to the competent authorities. The report results are also integrated as a so-called "zero state" as a part of environment impact assessment of the project.

In terms of Waste-to Energy Plant, the technical and technological conditions of measurement, emission limit values and their monitoring are defined by the Regulation on technical and technological conditions for the design, construction, equipping and operation of installations and types of waste for thermal waste treatment, emission limit values and their monitoring[15], as well as Conclusions on best available techniques for waste incineration (Commission implementing decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987)[16].

The content and method of monitoring the operation of the Non-Hazardous Waste Landfill, as well as subsequent maintenance after the closure of the landfill are defined by the Regulation on the disposal of waste at landfills[17] and Directive (EU) 2018/850 of the European Parliament and of the Council of May 30th, 2018, amending Directive 1999/31/EC on the landfill of waste[18].

6.1. *Monitoring of the Waste-to-Energy Plant operation*

6.1.1. *Monitoring of pollutant emissions into the air*

The EIA study and monitoring of air quality aims to control and determine the degree of air pollution, as well as to determine the trend of pollution to act in a timely manner to reduce the emission of harmful substances to a level that will not significantly affect the quality of the environment. The results of measurements of pollutant concentrations are compared with the prescribed emission limit values (ELVs), and based on the performed analyses, the conditions and trends are determined to take appropriate air protection measures. Air monitoring activities may be performed by professional organizations accredited as a testing laboratory, which meets the prescribed requirements and has the permission of the ministry responsible for environmental protection to perform air monitoring and/or emission measurement.

By implementing the Subject Project from point stationary sources of pollutants into the air, where monitoring of emissions into the air should be established, the following are:

- Emitter of the Waste-to Energy boiler: dust (total particulate matter), heavy metals, (Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V), Cd + Tl, HCl, HF, SO_2, NOx, CO, NH_3, TVOC, PCDD/F, dioxins as PCBs and Hg);

[14] "Official Gazette of the RS", nos. 135/04, 36/09, 36/09 - other law, 72/09 - other law, 43/11 - decision of the CC and 14/16, *Available* at Zakon o zaštiti životne sredine (paragraf.rs)
[15] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)
[16] Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)
[17] "Official Gazette of the RS", No. 92/2010, Available at Uredba o odlaganju otpada na deponije (paragraf.rs)
[18] Directive - 2018/850 - EN - EUR-Lex (europa.eu)

- Emitter of the waste pretreatment filter stacks: dust (total particulate matter), TVOC, i.e. organic matter, expressed as total carbon and unpleasant odours.
- Emitter of the stabilization and solidification of the thermal treatment residues: dust (total particulate matter).

Measurements of pollutant emission into the air from the Waste-to-Energy boiler stack shall be carried out in accordance with Annexes 2 and 3. Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for thermal treatment, emission limit values and their monitoring[19] and the Conclusions on best available techniques for waste incineration (Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration)[20]:

1) Continuous measurement of nitrogen oxides (NOx), ammonia (NH_3), carbon monoxide (CO), dust (total particulate matter), total organic carbon (TVOC), hydrogen chloride (HCl), hydrogen fluoride (HF), sulphur dioxide (SO_2).
   Note: For waste thermal treatment plants with a proven low and stable mercury content (e.g., monostreams of controlled composition waste), as is the case of the Subject Project installation, continuous monitoring of emissions can be replaced by long-term sampling (there is no EN standard for long-term mercury sampling) or periodic measurements with a minimum frequency once every six months. In the second case, EN 13211 is relevant.
2) Continuous measurement of the following process parameters: temperature at the inner wall of the combustion chamber or at another representative point of the combustion chamber and/or additional combustion chamber, in accordance with the permit of the competent authority, as well as the volume fraction of oxygen, flue gas flow, pressure, temperature and water vapor content in the waste gases.
   The gas retention time as well as the minimum temperature and oxygen content of the process gases shall be adequately checked, at least once, when the thermal treatment plant is put into operation and under the most unfavourable operating conditions expected.
3) Individual measurement of the heavy metals' concentration and metalloids (As, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Tl, V), dioxins and furans at least twice a year, whereby these measurements in the first year of operation are performed at least four times a year with an interval of three months, as well as benzo[a] pyrene once a year.

Limit values for emissions of pollutants into the air from thermal waste treatment plants are prescribed in Appendix 2. Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for thermal treatment, emission limit values and their monitoring[21] and the Conclusions on best available techniques for waste incineration (Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration)[22] as shown in Table 1 and 2. Emission limit values are prescribed for dry waste gas, under normal conditions: T=273.15 K and P=101.3 kPa. The standard values are with an oxygen content of 11 %, except in cases of incineration of mineral waste oil, in accordance with the regulation governing the management of waste oils, when the standard value is 3 % of the oxygen content. Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for thermal treatment, emission limit values and their monitoring[23].

[19] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)
[20] Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)
[21] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)
[22] Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)
[23] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)

Table 1. Emission limit values of pollutant emissions into the air from waste thermal treatment plant.

Pollutant	Unit	ELV according to RS egulati ons[24]	BAT-AELs in accordance with BREF WI[25]		Test method according to BAT-AELs according to BREF WI*
			BAT-AEL for new plants	Averaging period	
Dust (Total Particulate matter)	mg/Nm³	10	< 2–5	Mean daily	General Standard and EN 13284-2
Cd+Tl	mg/Nm³	0.05	0.005-0.02	During the sampling period	EN 14385
Sb+As+Pb+Cr+Co +Cu+Mn+Ni+V	mg/Nm³	0.5	0.01-0.3	During the sampling period	EN 14385
HCl	mg/Nm³	10	< 2–6	Mean daily	General EN Standards
HF	mg/Nm³	1	< 1	Mean daily or mean during the sampling period	General EN Standards
SO_2	mg/Nm³	50	5-30	Mean daily	General EN Standards
NOx	mg/Nm³	200	50-120	Mean daily	General EN Standards
CO	mg/Nm³	50	10-50	Mean daily	General EN Standards
NH_3	mg/Nm³	-	2-10	Mean daily	General EN Standards
TVOC	mg/Nm³	10	< 3–10	Mean daily	General EN Standards
PCDD/F	ng I-TEQ/Nm³	0.1	< 0.01-0.04	Mean value during the sampling period	EN 1948-1, EN 1948-2, EN 1948-3
			< 0.01-0.06	Long sampling period	
PCDD/F + dioxin-like PCBs	ng WHO-TEQ/Nm³	-	< 0.01-0.06	Mean value during the sampling period	EN 1948-1, EN 1948-2, EN 1948-4

[24] Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for waste thermal treatment, emission limit values and their monitoring ("Official Gazette of the RS", No. 103/2023), *Available at* about:blank (ekologija.gov.rs)

[25] Conclusions on best available techniques for waste incineration (Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration) Available at Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)

			< 0.01-0.08	Long sampling period	
Hg	µg/Nm^3	50	< 5–20	Mean daily or mean value during the sampling period	General EN standards and EN 14884
			1-10	Long sampling period	

Table 2. Mean half-hour limit values (in accordance with the Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for thermal treatment, emission limit values and their monitoring[26] for the following pollutants.

Pollutant	**(100% of measured values) A**	**(97% of measured values) B**
Dust (Total Particulate matter)	30 mg/normal m^3	10 mg/normal m^3
Gaseous or vapour organic matter, expressed as total organic carbon (TOC)	20 mg/normal m^3	10 mg/normal m^3
Hydrogen chloride (HCL)	60 mg/normal m^3	10 mg/normal m^3
Hydrogen fluoride (HF)	4 mg/normal m^3	2 mg/normal m^3
Sulphur dioxide (SO_2)	200 mg/normal m^3	50 mg/normal m^3
Nitrogen monoxide (NO) and nitrogen dioxide (NO_2), expressed as nitrogen dioxide for incineration plants whose nominal capacity exceeds 6 tonnes per hour or for new plants	400 mg/normal m^3	200 mg/normal m^3

Table 3. Mean half-hour limit values (in accordance with the Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for thermal treatment, emission limit values and their monitoring[27] for the following heavy metals during sampling for a minimum of 30 min. and a maximum of 8 h.

Pollutant	**(Sampling for min of 30 minutes)**	**(Sampling for max of 8 hours)**
Cadmium and its compounds, measured as cadmium (Cd)	total 0.05 mg/normal m^3	total 0.1 mg/normal m^{3*})
Thallium and its compounds, expressed as thallium (Tl)		
Mercury and its compounds, expressed as mercury (Hg)	200 mg/normal m^3	0.1 mg/normal m^{3*})
Antimony and its compounds, expressed as antimony (Sb)	total 0.5 200 mg/normal m^3	total 1 200 mg/normal m^{3*})
Arsenic and its compounds, expressed as arsenic (As)		
Lead and its compounds, expressed as lead (Pb)		
Chromium and its compounds, expressed as chromium (Cr)		
Cobalt and its compounds, expressed as cobalt (Co)		
Copper and its compounds, expressed as copper (Cu)		

[26] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)
[27] Ibid.

Manganese and its compounds, expressed as manganese (Mn)		
Nickel and its compounds, expressed as nickel (Ni)		
Vanadium and its compounds, expressed as vanadium (V)		

Table 4. shows the mean emission values for dioxins and furans over a sampling period of at least 6 h and at most 8 h. The emission limit values apply to the total concentrations of dioxins and furans, calculated based on factors of equivalent toxicity.

Dioxins and furans	0.1 ng/Nm³

The emission limit values for carbon monoxide (CO) must not be exceeded regarding gases from the combustion process:

a) 50 mg/normal m³ determined as a daily average;

b) 100 mg/normal m³ determined as a half-hour value;

(c) 150 mg/normal m3 as the mean ten-minute value.

An emission limit value for carbon monoxide (CO) may be applied to waste incineration installations using fluidised bed combustion process, provided that the permit clearly states an emission limit value for carbon monoxide (CO), which is a maximum of 100 mg/normal m³, determined as the mean hourly value. Air emission limit values for gaseous or vapour organic substances, expressed as total organic carbon (TOC) of 20 mg/Nm³ (100 % of measured values) and 10 mg/Nm³ (97 % of measured values), for mean half-hourly LV and carbon monoxide (CO) referred to in point 5 for mean half-hourly LV (100 mg/Nm³) must not be exceeded.

During the regular operation of the pretreatment (mechanical treatment) of waste to be thermally treated at the Waste-to-Energy boiler, as well as during the unloading of waste, dust (total particulate matter), unpleasant odours and TVOC may be emitted (only when the organic compounds in question have been identified as relevant in the waste gas stream). To dedust and remove unpleasant odours, the air from the area where the unloading and pretreatment of non-hazardous and hazardous waste intended for energy generation is carried out will be conducted by means of a fan with a capacity of 24,000 m³/h through a system of suction hoods and pipelines to the filter unit (Waste Pretreatment Bag Filter System and Activated Carbon Filter). The filter unit consists of a bag filter with pulsed shaking by compressed air, an activated carbon filter and an emitter.

All sources of dust (total particulate matter) emission into the air from the stabilisation and solidification process are equipped with bag filters on which total particulate matter is separated (ash mixture and thickened sediment storage bunker in which the stabilisation process takes place; mechanical treatment of slag or separation of ferrous metals using magnetic separators and non-ferrous metals using eddy current separators; mixer reactor in which the process of mixing cement, ash and water or the solidificates takes place; cement storage silo; cement weighing scale and ash weighing scale). The dedusting system consists of: exhaust shutters and hoods, pipelines, bag filter unit with accompanying equipment, centrifugal fan (capacity Q=25,000 m³/h, P=37 kW) and emitter (stack).

Limit values of emissions into the air for these 2 emitters are prescribed by the Regulation on Limit Values of Emissions of Pollutants into the Air from Stationary Pollution Sources, except for combustion plants[28]. In accordance with the Regulation on measurements of pollutant emissions into the air from stationary sources of pollution[29] and the Regulation on limit values for the emission of pollutants into the air from stationary sources

[28] "Official Gazette of the RS", No. 111/2015 and 83/2021, Available at https://www.ekologija.gov.rs/sites/default/files/old-documents/Vazduh/Uredbe/uredba_o-granicnim-vrednostima-emisija_zagadjujuce_materija-u-vazduh-iz-stacionarih-izvora-zagadjivanja.pdf

[29] "Official Gazette of the RS", no. 5/16 and 10/24, Available at uredba_o-merenjima-emisija_zagadjujucih_materija_u_vazduh-iz-stacionarnih-izvora-zagadivanja.pdf (ekologija.gov.rs)

of pollution, except for combustion plants[30] - Annex 1, Part VII WASTE TREATMENT PLANTS and OTHER MATERIALS, with the EXCEPTION OF THERMAL TREATMENT and BAT conclusions for waste treatment plants (Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (notified under document C(2018) 5070) [31] (Text with EEA relevance.) it is necessary to:

- On the emitter of the Waste Pretreatment Bag Filter System and Activated Carbon Filters, measure the concentrations of dust (total particulate matter), TVOC or organic matter, expressed as total carbon;
- Measure the concentrations of dust (total particulate matter) on the emitter of the stabilization and solidification process.

At the specified point emission sources, periodically measure emissions twice during the calendar year, in accordance with legal regulations. One periodic measurement is performed in the first six calendar months, and the other periodic measurement in the second six ones. Table 5 shows the limit values for the emission of pollutants into the air from the Emitter of the Waste Pretreatment Bag Filter System and Activated Carbon Filter, as well as Filter system of the stabilization and solidification process.

Table 5. Limit values for the emission of pollutants into the air.

Emitter		**Pollutants**	**ELV with RS regulations[32]**	**BAT WT[33]**	**Test method according to BAT-AELs in accordance with BREF WT[4]**
Emitter of the Waste Pretreatment Filter System and Activated Carbon Filters	Stack after bag filter and activated carbon filter (H=21.5 m)	Dust (Total Particulate matter)	10 mg/Nm³	2-5 mg/Nm³	EN 13284-1
		TVOC	-	10-30* mg/Nm³	EN 12619
		Organic matter, expressed as total carbon	20 mg/Nm³	-	-
Emitter of the stabilization and solidification process Filter system	Stack after bag filter (H=21.5 m)	Dust (Total Particulate matter)	10 mg/Nm³	2-5 mg/Nm³	EN 13284-1

30 "Official Gazette of the RS", No. 111/2015 and 83/2021, Available at https://www.ekologija.gov.rs/sites/default/files/old-documents/Vazduh/Uredbe/uredba_o-granicnim-vrednostima-emisija_zagadjujuce_materija-u-vazduh-iz-stacionarih-izvora-zagadjivanja.pdf
31 Implementing decision - 2018/1147 - EN - EUR-Lex (europa.eu)
32 Regulation on Limit Values of Air Pollutant Emissions from Stationary Sources of Pollution, Except from Combustion Installations, "Official Gazette of the RS", No. 111/2015 and 83/2021, Available at https://www.ekologija.gov.rs/sites/default/files/old-documents/Vazduh/Uredbe/uredba_o-granicnim-vrednostima-emisija_zagadjujuce_materija-u-vazduh-iz-stacionarih-izvora-zagadjivanja.pdf
33 Conclusions on best available techniques for waste incineration (Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration) Available at Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)

The impact on air quality in the subject area will be based on the monitoring of ambient air quality. Currently, in accordance with the adopted environmental monitoring plan and program, the operator Elixir Prahovo performs monitoring of ambient air quality in the vicinity of the subject location through an authorized accredited laboratory of the City Institute for Public Health Belgrade.

Air quality monitoring is carried out once a year for 15 days at the measuring point 1: Dragiša Brebulović-Žmiga, 11 Vuka Karadžića Street, Prahovo (N 44°17'40.6", E 22°35'9.5 "), which is about 2.5 km northwest of the location of the Waste-to-Energy Plant and Non-Hazardous Waste Landfill. The tests include monitoring of the following parameters:

- Mass concentrations of suspended particles PM10 and PM2,5;
- Total content of metals (As, Cd, Pb, Ni, Cr) in fraction of suspended particles PM10;
- Hydrogen fluoride (HF) mass concentration;
- Total content of phosphorus (P) in fraction of suspended particles PM10.

The analysis of the pollutants concentration in the air results, in the impact zone in relation to the maximum permissible concentration, was carried out in accordance with the Regulation on monitoring conditions and air quality requirements ("Off. Gazette of RS" no.75/10, 11/10 and 63/13). Based on the results of the Report on the conducted public consultations in the implementation of the projects for the construction of the Waste-to-Energy Plant in Prahovo, a strategic and systematic approach to future long-term interactions between investors and the local community regarding the operation of the Waste-to-Energy Plant has been defined through consultations with citizens. In addition to the conducted consultation, the need to donate an automatic measuring station to the municipality of Negotin was recognized. The automatic measuring station would be part of the network of the Environmental Protection Agency, at whose initiative an adequate location would be defined and relevant parameters for measurement would be determined. In accordance with the above, in the Environmental Protection Agency, a meeting was held in mid-April 2024, attended by the President of the Municipality of Negotin and representatives of the Elixir Foundation. On May 13th 2024, the Head of the Monitoring Group of the Environmental Protection Agency, the representative of Urbanism of the Negotin Municipality and the representative of the Elixir Foundation visited 6 potential locations in Negotin, after which the representative of the Agency selected the location of the preschool institution "Pčelica" (in the city center). Representatives of the local authorities and the civil association 'Negotinci in Action' were also introduced to all the above.

6.1.2. ***<u>Wastewater quality monitoring</u>***

In accordance with the Law on Waters[34], and the Rulebook on the manner and conditions for measuring and testing the quality of wastewater and their impact to the recipient and the content of the report on the performed measurements[35], Appendix 1 - technical conditions for the implementation of monitoring, it is the obligation of the water treatment facility owner, in this case the Investor, to monitor wastewater before and after their treatment through a legal entity authorized for wastewater testing or independently if the conditions are met.

Sampling of treated and/or untreated wastewater will be done by taking a composite or instantaneous sample depending on the dynamics of wastewater discharge. The basic parameters of the wastewater to be tested are flow (minimum, maximum and mean daily), air temperature, water temperature, barometric pressure, colour, odour, visible substances, sediment matter (after 2h), pH value, biochemical oxygen demand (BOD5), chemical

[34] "Official Gazette of the RS", no. 30/2010, 93/2012, 101/2016, 95/2018 and 95/2018 - other law, Available at Zakon o vodama (paragraf.rs)

[35] "Official Gazette of the RS", no. 18/2024, Avilabile at Правилник о начину и условима за мерење количине и испитивање квалитета отпадних вода и садржини извештаја о извршеним мерењима: 33/2016-18 (pravno-informacioni-sistem.rs)

oxygen demand (COD), oxygen content, dry residue, annealed residue, annealing loss, suspended matter and electrical conductivity.

In addition to the above basic parameters, testing of certain groups or categories of pollutants prescribed for technological and other wastewater that is directly discharged into the recipient will be performed (in accordance with the Regulation on Emission Limit Values for Pollutant into Water and Deadlines for Their Reach[36] as well as parameters related to emissions from wastewater treatment from the flue gas treatment process generated in the waste incineration installation (in accordance with the Regulation on technical and technological conditions for the design, construction, equipment and operation of plants and types of waste for thermal treatment, emission limit values and their monitoring[37].

In accordance with the characteristics of wastewater generated and discharged into the recipient, it is the obligation of the investor to perform regular monitoring of wastewater quality:

- After treatment at the wastewater treatment facility: total suspended solids (TSS), total organic carbon (TOC), metals and metalloids (As, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Tl, Zn, Mo), ammonium-nitrogen (NH4-N), sulphates ($SO4^{-2}$) and PCDD/ F, chlorides;
- before and after treatment on the grease and oil "by-pass" separator: temperature, pH value, biochemical oxygen demand (BOD5), chemical oxygen demand (COD), hydrocarbon index.

To facilitate manipulation and possible response in the event that the water quality does not correspond to the required quality after treatment for discharge into the recipient, wastewater chamber (numbered as chamber 2) is divided into 4 identical parts (sub-chambers 2a, 2b, 2c, 2d). The volume of each part, i.e. each subchamber, is 80 m^3, which is enough for each sub-chamber to accept wastewater for a period of 8 hours. After that, the wastewater from the sub-chamber in question is sampled and the quality parameters are tested. In this way, it is possible for each batch of 80 m^3 to be analysed before discharge. By dividing chamber 2 into smaller segments, a semi-batch method of wastewater treatment management is enabled, in order to have time to perform complete physic-chemical analyses. The maximum duration of the analysis is 8 hours, and then the water can be discharged in an appropriate manner, depending on the analysis results. In case that the waters do not have a satisfactory quality for discharge into the final recipient, water would be transported to the wastewater treatment facility by filtration (sand filter column and activated carbon column). After these filters, the water is once again sent for re-treatment to the wastewater treatment facility from the WtE boiler facility.

Limit values for emissions of pollutants at discharging wastewater from the waste gas treatment system of the waste incineration plant are prescribed IN APPENDIX 4. Limit Values for Emissions of Pollutants in Wastewater from the Waste Gas Treatment Process Generated in the Incineration Plant and Co-Incineration of Waste, Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for thermal treatment, emission limit values and their monitoring[38]. Emission limit values shall be applied at the point where the wastewater generated in the waste gas treatment process, containing the pollutants referred to in Annexes 2 and 3 of the said Regulation is discharged, i.e., at the point where the cleaned process water from the receiving basin is discharged into the collector of wastewater from the Waste-to-Energy Plant. In addition to Serbian national legislation, to define the monitoring of wastewater from the Subject Project, the Conclusions on best available techniques for waste incineration (Commission implementing decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987)) were also used[39].

[36] "Official Gazette of the RS", No. 67/2011, 48/2012 and 1/2016, Available at Уредба о граничним вредностима емисија загађујућих материја у ваздух из стационарних извора загађивања, осим постројења за сагоревање: 111/2015-3, 83/2021-8 (pravno-informacioni-sistem.rs)
[37] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)
[38] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)
[39] Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)

Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for waste thermal treatment, emission limit values and their monitoring[40], the following measurements are performed at the wastewater discharge point:

1) continuous measurement of the parameters referred to in the aforementioned Annex 4 of the Regulation;
2) individual daily measurement of total suspended solids;
3) monthly measurement also on a representative sample of discharged waters during 24 hours, i.e., pollutants in connection with Annex 4 of the Regulation;
4) measurements of dioxins and furans every six months (in the first year of operation, it would be measured at least four times a year with an interval of three months).

Table 6. Emission limit values for pollutants at discharging of wastewater from the waste gas treatment system of the thermal treatment plant.

Parameter name	**Process**		**Unit**	**BAT-AELs BREF WI[41]**	**ELV in accordance with the regulations of RS[42]**	**Test method according to BAT-AELs in accordance with BREF WI[5]**	**Minimum monitoring requirement**
Total suspended solids (TSS)	FGC Treatment of bottom ash		mg/l	10-30	30 (in 95% measured values) 45 (in 100% measured values)	EN 872	Once a day (2) Once a month (1)
Total organic carbon (TOC)	FGC Treatment of bottom ash		mg/l	15 – 40	-	EN 1484	Once a month Once a month (1)
Metals and metalloids	As Cd	FGC FGC	mg/l	0.01-0.05 0.005-0.03	0.15 0.05	Different EN standards (e.g. EN ISO 11885, EN ISO 15586 or EN ISO 17294-2)	Once per month
	Cr	FGC	mg/l	0.01-0.1	0.5		Once per month
	Cu	FGC	mg/l	0.03-0.15	0.5		Once per month
	Mo	FGC	mg/l	—	-		
	Hg	FGC	mg/l	0.001-0.01	0.03	Different EN standards (e.g. EN ISO 12846 or EN ISO 17852)	Once per month
	Ni	FGC	mg/l	0.03-0.15	0.5	Different EN standards (e.g. EN ISO 11885, EN ISO 15586 or EN ISO 17294-2)	Once per month
	Pb Sb	FGC Treatment of bottom ash	mg/l	0.02-0.06 0.02-0.9	0.2 -		Once per month
	Tl	FGC	mg/l	0.005-0.03	0.05		Once per month

[40] "Official Gazette of the RS", No. 103/2023, *Available at* about:blank (ekologija.gov.rs)

[41] Commission implementing decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987). Available at Implementing decision - 2019/2010 - EN - EUR-Lex (europa.eu)

[42] Regulation on technical and technological conditions for the design, construction, equipping and operation of plants and types of waste for waste thermal treatment, emission limit values and their monitoring "Official Gazette of the RS", No. 103/2023, Available at about:blank (ekologija.gov.rs)

	Zn	FGC		0.01-0.5	1.5		Once per month
PCDD/F	FGC		ng I-TEQ/l	0.01-0.05	0.3	No EN standard	Once every 6 months

(1) Monitoring may also be performed once every 6 months if it is proven that emissions are relatively stable.
(2) Daily 24-hour flow-proportional sampling may be replaced by daily measurements.

In accordance with the characteristics of the wastewater that is generated and discharged into the recipient, it is the responsibility of the Investor to carry out regular monitoring of the quality of wastewater after treatment at the wastewater treatment facility: total suspended matter (TSS), total organic carbon (TOC), metals and metalloids and (As, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Tl, Zn, Mo) and PCDD/ F.

During the regular operation of the Subject Project, atmospheric (potentially polluted) wastewater will be generated. For the purpose of treating oily atmospheric water from manipulative surfaces, roads and parking lots, two "by pass" separators of petroleum products are planned, made and tested according to SRPS EN 858, rated size NS10/100 (flow through the separator 10 l/s while the max flow is 100 l/s) and rated size NS15/150 (flow through the separator 15 l/s while the max flow is 150 l/s). The efficiency of separating light petroleum products - light liquids in the separator outlet water is up to 5 mg/l. So cleaned oily sewer is connected to the conditionally clean rainwater sewer and conducted to the drainage existing central receiving collector for the entire industrial chemical complex in Prahovo, and through it is discharged into the Danube River.

Wastewater quality control will include regular analyses of samples of potentially polluted atmospheric wastewater, before and after their treatment on the separator of petroleum products. Wastewater quality testing will be carried out 4 times a year in accordance with Article 99 Law on Waters[43] and in accordance with the Rulebook on the method and conditions for measuring the amounts and examination of the quality of wastewater and its impact on the recipient and the content of the report on the measurements performed[44] the Regulation on Limit Values of Pollutant Emissions into Water and Deadlines for Reaching Them[45].

When sampling, preparing samples, storing and storing them, handling samples, as well as during field testing and analysis of wastewater samples, reference methods as required by standard SRPS ISO/IEC 17025 will be applied. The quality of wastewater discharged into the recipient (Danube River) must correspond to the values prescribed by the Rulebook on the method and conditions for measuring the amounts and examination of the quality of wastewater and its impact on the recipient and the content of the report on the measurements performed[46] and the Regulation on Limit Values of Pollutant Emissions into Water and Deadlines for Reaching Them[47], Appendix 2, 19. Emission limit values for wastewater; II Other wastewater; Section 4. Limit values for the emission of wastewater containing mineral oils. Table 7 provides emission limit values at the point of discharge into surface waters.

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43 "Official Gazette of the RS", no. 30/2010, 93/2012, 101/2016, 95/2018 and 95/2018 - other law, Available at Zakon o vodama (paragraf.rs)
44 "Official Gazette of the RS", no. 18/2024, Avilabile at Правилник о начину и условима за мерење количине и испитивање квалитета отпадних вода и садржини извештаја о извршеним мерењима: 33/2016-18 (pravno-informacioni-sistem.rs)
45 "Official Gazette of the RS", No. 67/2011, 48/2012 and 1/2016, Available at Уредба о граничним вредностима емисија загађујућих материја у ваздух из стационарних извора загађивања, осим постројења за сагоревање: 111/2015-3, 83/2021-8 (pravno-informacioni-sistem.rs)
46 "Official Gazette of the RS", no. 18/2024, Avilabile at Правилник о начину и условима за мерење количине и испитивање квалитета отпадних вода и садржини извештаја о извршеним мерењима: 33/2016-18 (pravno-informacioni-sistem.rs)
47 "Official Gazette of the RS", No. 67/2011, 48/2012 and 1/2016, Available at Уредба о граничним вредностима емисија загађујућих материја у ваздух из стационарних извора загађивања, осим постројења за сагоревање: 111/2015-3, 83/2021-8 (pravno-informacioni-sistem.rs)

In accordance with the characteristics of the generated wastewater and discharge of them into the recipient, it is the responsibility of the Investor to perform regular monitoring of the quality of wastewater before and after treatment at the grease and oil separator: temperature, pH value, biochemical oxygen demand (BOD5), chemical oxygen demand (COD), hydrocarbon index.

Bearing in mind that all wastewater, which meets the prescribed ELV, from the subject Waste-to-Energy Plant will be collectively released into the existing central receiving collector, which is discharged into the natural recipient – the Danube River, it is the obligation of the Investor to perform regular quarterly monitoring of the surface water quality of the Danube River upstream and downstream of the inflow of wastewater from the central receiving collector of clean water, after the implementation of the Subject Project.

Table 7. Emission limit values at the point of discharge into surface waters (I).

Parameter name	Unit	Limit value(I)	Testing method
Temperature	°C	30	EPA Method 150.1:1982
pH		6.5-9	EPA Method 170.1:1974
Biochemical Oxygen Demand (BOD_5)	mgO_2/l	40	EN 1899
Chemical Oxygen Demand (COD)	mgO_2/l	150	EPA Method 410.1:1978
Hydrocarbon index	mg/l	10	EN ISO 9377-2

(I) The values refer to a two-hour sample.

Monitoring requirements for underground water, treated sewage water, soil quality, noise and waste handling are not described in detailed in this short summary. All the procedures with corresponding pollutant limits have been developed in accordance with Serbian legislative framework and are subject to special permitting system as a part of the IPPC permit authorization process.

6.2. *Monitoring of Non-Hazardous Waste Landfill operations*

The content and method of monitoring the operation of the Non-Hazardous Waste Landfill, as well as subsequent maintenance after the closure of the landfill are defined by the Regulation on the disposal of waste at landfills[48], Appendix 6 - Monitoring the operation of the landfill.

The monitoring of the landfill operation will be carried out during the active and passive phase of the landfill and will include the following:

1) monitoring of meteorological parameters (daily);
2) monitoring of surface waters (volume and composition measurement upstream and downstream of the landfill quarterly);
3) monitoring of leachate (volume – monthly, composition – quarterly);
4) monitoring of gas emissions (there will be no emissions of landfill gas and unpleasant odours);
5) monitoring of groundwater (water table every six months, composition – must be determined based on the flow);

[48] "Official Gazette of the RS", No. 92/2010, Available at Uredba o odlaganju otpada na deponije (paragraf.rs)

6) monitoring of the amount of rainwater (daily);
7) monitoring of the landfill body stability (every year);
8) monitoring of protective layers (continuously);
9) monitoring of pedological and geological characteristics (yearly).

The monitoring will be carried out by sampling and measurement in the manner defined in Appendix 6. – Monitoring the operation of the landfill, the Regulation on disposal of waste on landfills[49].

In the first six months of the landfill operation every 15 days, measurement and testing (shortened chemical and bacteriological analyses) of groundwater will be performed, and after this period the frequencies of measurement during exploration determined. If the results of the testing of the taken samples show that it has deviated from the limit values in accordance with the law governing water, it is considered that an accidental situation of the protective layers of the landfill has occurred. In this case, additional hydrogeological facilities shall be made considering the hydrogeological conditions of the environment. All processed data are displayed by control charts with established control rules of limit values for each groundwater measuring point.

Due to critical nature of the activity and with a purpose of accident prevention/control a plan has been proposed to determine the soil quality in the subject area during exploration:

- In order to determine the characteristics of the drilled soil, sampling should be performed for laboratory testing of the granulometric composition of approximately 5 samples per well, which would include all changes in relation to the heterogeneity of the lithological column, as well as the material immediately below the ground up to 1 m, the area above the aquifer zone, and specifically the capillary rise zone and the aquifer zone.
- Based on the drilled core of the well, soil sampling for physical and chemical soil analysis should be performed on the characteristic changes of the terrain. From each exploration well, take 1 sample in the over aquifer zone above the capillary zone, 1 sample in the capillary rise zone, 1 sample in the groundwater fluctuation zone, as well as 1 sample in the zone one meter below the aquifer level) – approximately 4 samples per well, in accordance with SRPS ISO 18400-101:2019, SRPS ISO 18400-104:2019, SRPS ISO 18400-203:2020.
- Installation of a piezometer structure made of solid threaded PVC pipes with a diameter of Ø 90 mm in accordance with (SRPS EN ISO 1452-1 and SRPS EN ISO 1452-5 as well as standards EPA/540/S-95/500).
- During the first year of groundwater quality monitoring, it is proposed that monitoring be carried out on a quarterly basis in all observation piezometers simultaneously, with daily groundwater level measurements. After the annual review of the status, it is proposed to switch to 6-month quality monitoring, if there is no deterioration in the quality of groundwater, i.e., that all tested parameters are in accordance with the applicable legislation.

The establishment of an adequate monitoring system will ensure:

- consideration of the direction of groundwater flow under different conditions of the relationship between the groundwater regime, the precipitation regime and the surface water regime, by forming potentiometer maps,
- encompassing the complete convection image of the aquifer formed in the terraced deposits of the "City Terrace" as well as the aquifer formed in the Pliocene deposits, in order to determine the hydraulic dependence of the roof and floor aquifer,
- hydraulic connection between the surface waters of the Danube and the intergranular aquifer formed within the "City Terrace",
- defining hydrogeological parameters for each facility – piezometer, by testing them,

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[49] Ibid.

- monitoring the potential movement of the pollutant in order to alert early and applying preventive and remediation measures to improve the quality of groundwater drained into the Danube.

The concept of establishing monitoring in order to alert early by establishing three zones of representative piezometers:

A- zone - background piezometers in relation to the position of industrial chemical complex in Prahovo and Danube reflecting the neutral composition of groundwater – where, in addition to the existing piezometers 2 additional should be placed.

Leachate monitoring zone in the landfill zone with two piezometers, both reaching the depth above the HDPE film.

B – zone – placed downstream in the direction of the underground flow towards the Danube in the immediate zone in relation to the position of a potential source of pollution – Non-Hazardous Waste Landfill. Based on the calculated values of advective transport, this zone should be set to a distance of 125 m in relation to the landfill, namely 3 piezometers.

C – zone – is set downstream in the direction of the underground flow, as a downstream control zone. Based on the calculated values of the advective transport, the control piezometers should be placed at a distance of 250 m and 500 m in relation to the landfill in the direction of the flow. In this zone, it is necessary to place 3 piezometers at a distance of 250 m from the landfill. In addition, two more piezometers must be installed at a distance of 500 m.

With the aforementioned concept, it is necessary to include the layers that represent the Perched aquifer as well as the lower intergranular aquifer formed in Pliocene deposits. Figure 1 provides a conceptual model of the proposed zoning system for monitoring the subject area.

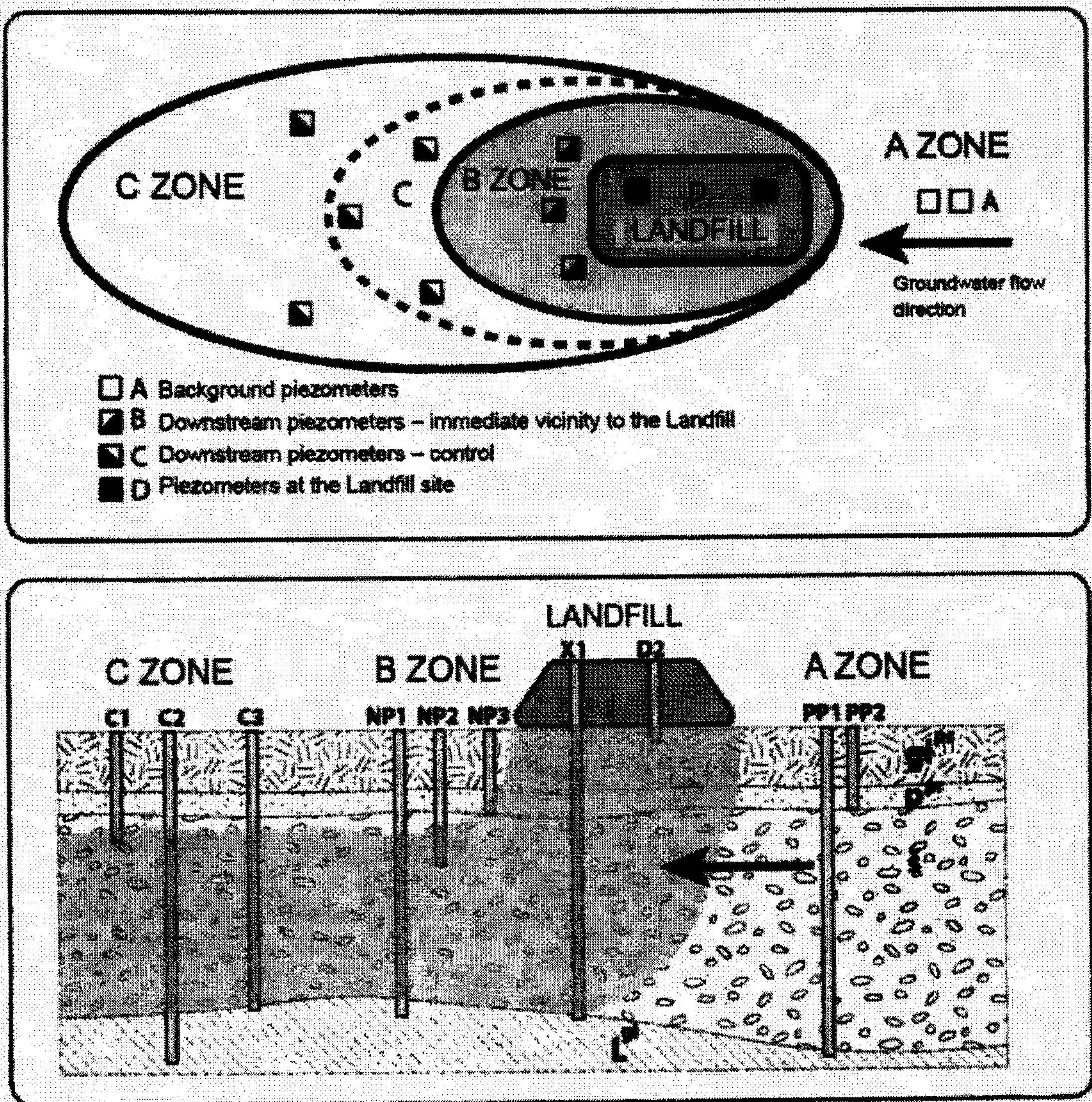

Figure 1. Conceptual model of the proposed zoning system for monitoring the subject area.

6.3. *Monitoring of waste quantities*

Pursuant to the Law on Waste Management[50], the Investor is obliged to constantly monitor and record the quantities and types of waste that are taken over and disposed of at the Non-Hazardous Waste Landfill, in accordance with the operating procedures of the Subject Project (pre-acceptance, acceptance, operation guidance of the Waste-to-Energy Plant and the Non-Hazardous Waste Landfill).

Waste monitoring is achieved by the following activities:

- Implementation of the Work Plan and the permit of the competent authority for the disposal of waste at the Non-Hazardous Waste Landfill.

[50] "Official Gazette of the RS", no. 36/09, 88/2010, 14/2016, 95/2018 – other law and 35/2023. Available at Zakon o upravljanju otpadom (paragraf.rs)

- At the entrance to the Non-Hazardous Waste Landfill, the installed scale shall measure the mass of the waste transport vehicle and measure the waste received by the landfill.
- The acceptance of waste into a Non-Hazardous Waste Landfill is carried out according to the following procedures:
    1. examination of waste for disposal;
    2. compliance check;
    3. on-site check.
- By obtaining the Waste Characterization Report.

Examination of waste for disposal shall be carried out for each type of waste, in accordance with a special regulation prescribed by Regulation on disposal of waste on landfills[51] and sampling in accordance with the prescribed standards. The data obtained by examination of waste for disposal at the landfill, in particular relate to:

1) a description of the previous waste treatment or a statement that the waste can be disposed of without prior treatment,
2) composition of waste and leachate,
3) the class of landfill to which the waste is disposed,
4) proof that the waste is not the waste referred to in Article 9 of this regulation,
5) special requirements and measures to be taken when disposing of, if necessary, in accordance with Article 13 of Regulation on disposal of waste on landfills ("Official Gazette of the RS", no. 92/2010),
6) certain key parameters for checking compliance, as well as its dynamics.

For waste regularly produced in the same procedure and in the same plant, the examination produces data which particularly refer to:

- variability in the composition of individual types of waste,
- limits of variability of significant properties.

For waste that is regularly produced in the same process but in different plants, examination provides data related to waste from each plant based on a certain number of measurements performed.

Examination of waste intended for disposal shall be carried out by authorized professional waste examination organizations in accordance with the Law on Waste Management[52]. The data obtained from examination of waste are an integral part of the waste examination report for disposal, in accordance with a special regulation prescribed by Regulation on disposal of waste on landfills[53].

Special examining: For waste regularly produced in the same process and in the same plant, for which there are data specified in Article 16, par. 2 and 3 of the Regulation on the disposal of waste at landfills[54], if the measurement results show small deviations from the limit values of the disposal parameters, perform examination at the first delivery, and then periodic compliance verification in accordance with the Regulation.

For waste that is not regularly produced in the same process and in the same plant, as well as for waste whose characteristics are variable, examination of waste for disposal is performed for each batch of waste and no compliance check is performed for it.

Compliance check is a periodic check of waste that is regularly submitted for disposal in order to determine whether the parameters of that waste correspond to the parameters obtained by examination of the waste for disposal and whether they meet the limit values of the parameters for disposal of waste. The parameters for the

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[51] "Official Gazette of the RS", No. 92/2010, Available at Uredba o odlaganju otpada na deponije (paragraf.rs)
[52] "Official Gazette of the RS", no. 36/09, 88/2010, 14/2016, 95/2018 – other law and 35/2023, Available at Zakon o upravljanju otpadom (paragraf.rs)
[53] "Official Gazette of the RS", No. 92/2010, Available at Uredba o odlaganju otpada na deponije (paragraf.rs)
[54] Ibid.

compliance check and the dynamics of the implementation of the compliance check are contained in the report referred to in Article 16, paragraph 6 of the Regulation on disposal of waste on landfills[55]. The compliance check is performed only for those parameters that were determined as critical during the examination of waste for disposal. When checking compliance, the same examinations that were used in examination of waste for disposal will be applied. The compliance check is carried out at least once a year, and the landfill operator makes sure that it is carried out according to the scope and dynamics in accordance with the regulation.

On-the-spot checks: The on-the-spot check consists of a visual inspection of each batch of waste before and after unloading, as well as a check of the accompanying documentation in accordance with Regulation:

- Waste is accepted at the landfill if it has been determined on the spot that it is identical to the waste for which the testing or compliance check was performed, as well as the description in the waste testing report.
- Criteria for accepting or not accepting waste at the landfill are limit values of waste disposal parameters defined by the Rulebook on Waste Categories, Examination and Classification[56], Appendix 8, point 2. Disposal of non-reactive hazardous waste at the Non-Hazardous Waste Landfill in cassettes not used for the disposal of biodegradable waste:

Parameter	**Concentration limit value in granular waste**
Total Organic Carbon (TOC)	5%
pH	Minimum 6
Acid neutralizing capacity (ANC)	Must be assessed
	Concentration limit value in leachate in mg/ kg dm* (L/S= 10 l/kg)**
Antimony, Sb	0.7
Arsenic, As	2
Copper, Cu	50
Barium, Ba	100
Mercury, Hg	0.2
Cadmium, Cd	1
Molybdenum, Mo	10
Nickel, Ni	10
Lead, Pb	10
Selenium, Se	0.5
Chromium Total, Cr	10
Zinc, Zn	50
Evaporation residue at 105°C	60000
Soluble Organic Carbon (DOC)	800
Sulphates (SO_4^{2-})	20000
Fluorides (F^-)	150
Chlorides (Cl^-)	15000

[55] Ibid.
[56] "Official Gazette of the RS", No. 56/2010, 93/2019 and 39/2024, Available at Pravilnik o kategorijama, ispitivanju i klasifikaciji otpada (paragraf.rs)

Parameter	Concentration limit value in leachate in mg/m²kg dm (monolithic waste)***
Antimony, Sb	0.3
Arsenic, As	1.3
Copper, Cu	45
Barium, Ba	45
Mercury, Hg	0.1
Cadmium, Cd)	0.2
Molybdenum, Mo	7
Nickel, Ni	6
Lead, Pb	6
Selenium, Se	0.4
Chromium Total, Cr	5
Zinc, Zn	30
Soluble Organic Carbon (DOC)	Must be assessed
Sulphates (SO_4^{2-})	10000
Fluorides (F-)	60
Chlorides (Cl-)	10000
Parameter	**Additional concentration values in monolithic waste**
pH	Must be assessed
Acid neutralizing capacity (ANC)	Must be assessed
Electrical conductivity, mS/cm at 20°C/m²	Must be assessed

- *and non-reactive hazardous waste is hazardous waste whose leaching behaviour does not deteriorate over a long period of time, under the conditions present at the landfill or a possible accident: in the waste itself, due to the influence of external factors (temperature, air or the like), the influence of other waste including waste disposal products: landfill gas and leachate).*
- ** dm – dry mass*
- *** Refers to granular or fractured monolithic waste. Leaching tests are performed according to the following standards:*
- *EN 12457-2:2002 Characterization of waste-Leaching – Compliance test for leaching of granular waste materials and sludges – Part 2: One stage batch test at a liquids to a solid ratio of 10l/kg for materials with particle size below 4mm (without or with size reduction),*
- *EN 12457-4:2002 Characterization of waste-Leaching – Compliance test for leaching of granular waste materials and sludges – Part 4: One stage batch test at a liquids to a solid ratio of 10l/kg for materials with particle size below 10mm (without or with size reduction).*
- ****Leaching tests for the monolithic waste in question will be performed according to the NEN 7345 Leaching Characteristics of Soil and Stony Building and Waste Materials – Leaching Tests – Determination of the Leaching of Inorganic Components from Building and Monolithic Waste Materials with the Diffusion Test. The concentration limit values are given in relation to the 64-day test, but it is possible to use a shorter test in the first four steps, where the concentration limit values are a quarter of the concentration values for individual parameters given in the table.*
- *In addition to the parameters given in the table, it is possible to examine other parameters that can be found in waste such as pollutants, which are significant from the aspect of risk assessment.*

- Reporting (announcement) to the competent ministry on the movement of hazardous waste in electronic form; Submitting data from the document on the movement of hazardous waste to the Environmental Protection Agency, electronically, by entering data from the document on the movement of hazardous waste into the Agency's information system through the portal www.sepa.gov.rs.
- Completely certified and signed Document on the movement of waste in accordance with the Rulebook on the form of the document on the movement of hazardous waste, the form of prior notification, the manner of its delivery and the instructions for their completion[57], as a recipient /donor of hazardous waste, must also submit it to the postal address of the Ministry and the Agency, in accordance with the law governing waste management.
- By regularly completing the Document on the movement of waste as a recipient /donor of hazardous waste in accordance with the Rulebook on the form of the document on the movement of waste and the instructions for its completion[58].
- Pursuant to Article 75 of the Law on Waste Management[59] and the Rulebook on the form of daily records and annual report on waste with instructions for its completion[60] The Investor, as the future operator at the landfill, is obliged to keep daily records of the collected and disposed quantities of waste, i.e., to submit to the Agency a regular annual report on the types and quantities of disposed waste on the Non-Hazardous Waste Landfill and the results of monitoring, as follows:
    - Form DEO 2 - Daily waste records of the Landfill Operator,
    - Form GIO 2 - Annual Waste Report of the Landfill Operator.
      The report shall contain data on all necessary costs during the operation of the Landfill.

  Report forms shall be submitted to the Agency as follows:

    - in electronic form by entering data into the information system of the National Register of Pollution Sources at the address of the Environmental Protection Agency: http://www.sepa.gov.rs/index.php?menu=20170&id=20004&action=showAll

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[57] "Official Gazette of the RS", no. 17/2017, Available at Правилник о обрасцу Документа о кретању опасног отпада, обрасцу претходног обавештења, начину његовог достављања и упутству за њихово попуњавање: 17/2017-57 (pravno-informacioni-sistem.rs)

[58] Ibid.

[59] "Official Gazette of the RS", no. 36/09, 88/2010, 14/2016, 95/2018 – other law and 35/2023, Available at Zakon o upravljanju otpadom (paragraf.rs)

[60] "Official Gazette of the RS", nos. 7/2020 and 79/2021), Available at Правилник о обрасцу дневне евиденције и годишњег извештаја о отпаду са упутством за његово попуњавање: 7/2020-6, 79/2021-87 (pravno-informacioni-sistem.rs)

7. Conclusion

Waste-to-Energy is a well-established technic for thermal treatment of waste, deemed as necessary within EU waste management hierarchy for waste which cannot be recycled. Industrial field has captivated large experience in technical, operational and legislative domain.

Thereby, Elixir Group via its subsidiary Elixir Craft - Eco Energy branch, as the Investor, utilizes state-of-the art knowledge to present a project proposal for a Waste-to-Energy Plant based on bubbling fluidized bed technology for waste incineration with a combustion chamber of a 30 MW thermal power. Technical design is in full compliance with Commission Implementing decision (EU) 2019/2010 of 12th November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration (notified under document C(2019) 7987), Commission Implementing Decision (EU) 2018/1147 of August 10th 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (notified under document C(2018) 5070), Commission reference document on Best Available Techniques on Emissions from Storage (July 2006) and Directive (EU) 2018/850 of the European Parliament and of the Council of May 30th 2018 amending Directive 1999/31/EC on the landfill of waste.

Adopted solutions minimize the risk of environment degradation possibility. Moreover, investment is planned for the industrial area with constant energy take-off need, with limited influence on the inhabited area. Cumulative impact assessment study indicated that there are very limited synergic pollutants with the existing operation within the industrial chemical complex in Prahovo. The impact of execution of the Subject Project would be very limited, with marginal to no impact on the surrounding, including the cross-border areas of Romania and Bulgaria.

The Subject Project should limit overall need of the Elixir Prahovo for fossil-based fuel due to the intended production of low-pressure steam from heating energy recovered in thermal treatment process of non-recyclable hazardous and non-hazardous waste. Goals of the Subject Project are in full alignment with environmental, decarbonation and energy independence goals of EU Green Deal, Green Agenda for Western Balkans with a positive effect on the Serbian national waste management market.

For detailed EIA study references to the recommendations and comments submitted in your letter Reg. Reg. No 00-04-949 dated on April 26th, 2024. we refer Your attention to the subsequent Summary on next pages (p. 34 – 40).

List of EWC codes acceptabile for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
02 06 03	sludges from on-site effluent treatment	80,000
02 06 99	wastes not otherwise specified	100,000
02 07	wastes from the production of alcoholic and nonalcoholic beverages (except coffee, tea and cocoa)	
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials	100,000
02 07 02	wastes from spirits distillation	100,000
02 07 03	wastes from chemical treatment	100,000
02 07 04	materials unsuitable for consumption or processing	100,000
02 07 05	sludges from on-site effluent treatment	80,000
02 07 99	wastes not otherwise specified	100,000
3	**WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD**	
03 01	wastes from wood processing and the production of panels and furniture	
03 01 01	waste bark and cork	100,000
03 01 04*	sawdust, shavings, cuttings, wood, particle board and veneer containing hazardous substances	100,000
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	100,000
03 01 99	wastes not otherwise specified	100,000
03 02	wastes from wood preservation	
03 02 01*	non-halogenated organic wood preservatives	100,000
03 02 04*	inorganic wood preservatives	100,000
03 02 05*	other wood preservatives containing hazardous substances	100,000
03 02 99	wood preservatives not otherwise specified	100,000
03 03	wastes from pulp, paper and cardboard production and processing	
03 03 01	waste bark and wood	100,000
03 03 02	green liquor sludge (from recovery of cooking liquor)	80,000
03 03 05	de-inking sludges from paper recycling	80,000
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard	100,000
03 03 08	wastes from sorting of paper and cardboard destined for recycling	100,000
03 03 09	lime mud waste	80,000
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation	100,000
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10	80,000
03 03 99	wastes not otherwise specified	100,000
4	**WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES**	
04 01	wastes from the leather and fur industry	

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
19 09 06	solutions and sludges from regeneration of ion exchangers	80,000
19 09 99	wastes not otherwise specified	100,000
19 10	**wastes from shredding of metal-containing wastes 19 10 01 iron and steel waste**	
19 10 03*	fluff-light fraction and dust containing hazardous substances	100,000
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03	100,000
19 10 05*[1]	other fractions containing hazardous substances	100,000
19 10 06[1]	other fractions other than those mentioned in 19 10 05	100,000
19 11	**wastes from oil regeneration**	
19 11 01*	spent filter clays	100,000
19 11 02*	acid tars	80,000
19 11 03*	aqueous liquid wastes	40,000
19 11 04*	wastes from cleaning of fuel with bases	80,000
19 11 05*	sludges from on-site effluent treatment containing hazardous substances	80,000
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05	80,000
19 11 07*	wastes from flue-gas cleaning	100,000
19 11 99	wastes not otherwise specified	100,000
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**	
19 12 01	paper and cardboard	100,000
19 12 04	plastic and rubber	100,000
19 12 06*	wood containing hazardous substances	100,000
19 12 07	wood other than that mentioned in 19 12 06	100,000
19 12 08	textiles	100,000
19 12 10	combustible waste (refuse derived fuel)	100,000
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances	100,000
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	100,000
19 13	**wastes from soil and groundwater remediation**	
19 13 01*	solid wastes from soil remediation containing hazardous substances	100,000
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01	100,000
19 13 03*	sludges from soil remediation containing hazardous substances	80,000
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03	80,000
19 13 05*	sludges from groundwater remediation containing hazardous substances	80,000
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05	80,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
05 01 11*	wastes from cleaning of fuels with bases	40,000
05 01 12*	oil containing acids	36,000
05 01 13	boiler feedwater sludges	40,000
05 01 14	wastes from cooling columns	40,000
05 01 15*	spent filter clays	100,000
05 01 16	sulphur-containing wastes from petroleum desulphurisation	100,000
05 01 17	Bitumen	80,000
05 01 99	wastes not otherwise specified	100,000
05 06	wastes from the pyrolytic treatment of coal	
05 06 01*	acid tars	80,000
05 06 03*	other tars	80,000
05 06 04	waste from cooling columns	40,000
05 06 99	wastes not otherwise specified	100,000
05 07	wastes from natural gas purification and transportation	
05 07 02	wastes containing sulphur	100,000
05 07 99	wastes not otherwise specified	100,000
6	**WASTES FROM INORGANIC CHEMICAL PROCESSES**	
06 01	wastes from the manufacture, formulation, supply and use (MFSU) of acids	
06 03 13*	solid salts and solutions containing heavy metals	80,000
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13	80,000
06 03 15*	metallic oxides containing heavy metals	80,000
06 03 16	metallic oxides other than those mentioned in 06 03 15	80,000
06 03 99	wastes not otherwise specified	100,000
06 04	metal-containing wastes other than those mentioned in 06 03	
06 04 03*	wastes containing arsenic	80,000
06 04 05*	wastes containing other heavy metals	80,000
06 04 99	wastes not otherwise specified	100,000
06 05	sludges from on-site effluent treatment	
06 05 02*	sludges from on-site effluent treatment containing hazardous substances	80,000
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02	80,000
06 06	wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes	
06 06 02*	wastes containing hazardous sulphides	80,000

List of EWC codes acceptabile for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
19 05 02	non-composted fraction of animal and vegetable waste	100,000
19 05 03	off-specification compost	100,000
19 05 99	wastes not otherwise specified	100,000
19 06	wastes from anaerobic treatment of waste	
19 06 03	liquor from anaerobic treatment of municipal waste	100,000
19 06 04	digestate from anaerobic treatment of municipal waste	100,000
19 06 05	liquor from anaerobic treatment of animal and vegetable waste	100,000
19 06 06	digestate from anaerobic treatment of animal and vegetable waste	100,000
19 06 99	wastes not otherwise specified	100,000
19 07	landfill leachate	
19 07 02*	landfill leachate containing hazardous substances	40,000
19 07 03	landfill leachate other than those mentioned in 19 07 02	40,000
19 08	wastes from waste water treatment plants not otherwise specified	
19 08 01	screenings	100,000
19 08 02	waste from desanding	100,000
19 08 05	sludges from treatment of urban waste water	80,000
19 08 06*	saturated or spent ion exchange resins	80,000
19 08 07*	solutions and sludges from regeneration of ion exchangers	80,000
19 08 08*	membrane system waste containing heavy metals	80,000
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats	80,000
19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09	80,000
19 08 11*	sludges containing hazardous substances from biological treatment of industrial waste water	80,000
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11	80,000
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water	80,000
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13	80,000
19 08 99	wastes not otherwise specified	100,000
19 09	wastes from the preparation of water intended for human consumption or water for industrial use	
19 09 01	solid waste from primary filtration and screenings	100,000
19 09 02	sludges from water clarification	80,000
19 09 03	sludges from decarbonation	80,000
19 09 04	spent activated carbon	80,000
19 09 05	saturated or spent ion exchange resins	80,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02	80,000
06 06 99	wastes not otherwise specified	100,000
06 07	wastes from the MFSU of halogens and halogen chemical processes	
06 07 02*	activated carbon from chlorine production	80,000
06 07 99	wastes not otherwise specified	100,000
06 08	wastes from the MFSU of silicon and silicon derivatives	
06 08 02*	wastes containing hazardous chlorosilanes	100,000
06 08 99	wastes not otherwise specified	100,000
06 09	wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes	
06 09 02	phosphorous slag	100,000
06 09 03*	calcium-based reaction wastes containing or contaminated with hazardous substances	100,000
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03	100,000
06 09 99	wastes not otherwise specified	100,000
06 10	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture	
06 10 02*	wastes containing hazardous substances	100,000
06 10 99	wastes not otherwise specified	100,000
06 11	wastes from the manufacture of inorganic pigments and opacificiers	
06 11 01	calcium-based reaction wastes from titanium dioxide production	80,000
06 11 99	wastes not otherwise specified	100,000
06 13	wastes from inorganic chemical processes not otherwise specified	
06 13 02*	spent activated carbon (except 06 07 02)	80,000
06 13 03	carbon black	100,000
06 13 99	wastes not otherwise specified	100,000
7	**WASTES FROM ORGANIC CHEMICAL PROCESSES**	
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals	
07 01 01*	aqueous washing liquids and mother liquors	40,000
07 01 08*	other still bottoms and reaction residues	80,000
07 01 09*	halogenated filter cakes and spent absorbents	80,000
07 01 10*	other filter cakes and spent absorbents	80,000
07 01 11*	sludges from on-site effluent treatment containing hazardous substances	80,000
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11	80,000
07 01 99	wastes not otherwise specified	100,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
16 11 05*	linings and refractories from non-metallurgical processes containing hazardous substances	100,000
16 11 06	linings and refractories from non-metallurgical processes other than those mentioned in 16 11 05	100,000
17	**CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)**	
17 02	**wood, glass and plastic**	
17 02 01	wood	100,000
17 02 03	plastic	100,000
17 02 04*	glass, plastic and wood containing or contaminated with hazardous substances	100,000
17 03	**bituminous mixtures, coal tar and tarred products**	
17 03 01*	bituminous mixtures containing coal tar	80,000
17 03 02	bituminous mixtures other than those mentioned in 17 03 01	80,000
17 03 03*	coal tar and tarred products	80,000
17 04	**metals (including their alloys)**	
17 04 09*	metal waste contaminated with hazardous substances	100,000
17 04 10*	cables containing oil, coal tar and other hazardous substances	100,000
17 04 11	cables other than those mentioned in 17 04 10	100,000
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**	
17 05 03*	soil and stones containing hazardous substances	100,000
17 05 04	soil and stones other than those mentioned in 17 05 03	100,000
17 05 06	dredging spoil other than those mentioned in 17 05 05	100,000
17 05 08	track ballast other than those mentioned in 17 05 07	100,000
17 06	**insulation materials and asbestos-containing construction materials**	
17 06 03*	other insulation materials consisting of or containing hazardous substances	100,000
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	100,000
17 08	**gypsum-based construction material**	
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01	100,000
17 09	**other construction and demolition wastes**	
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances	100,000
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	100,000
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)**	
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**	
18 01 01	sharps (except 18 01 03)	100,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
07 05 08*	other still bottoms and reaction residues	80,000
07 05 09*	halogenated filter cakes and spent absorbents	80,000
07 05 10*	other filter cakes and spent absorbents	80,000
07 05 11*	sludges from on-site effluent treatment containing hazardous substances	80,000
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11	80,000
07 05 13*	solid wastes containing hazardous substances	100,000
07 05 14	solid wastes other than those mentioned in 07 05 13	100,000
07 05 99	wastes not otherwise specified	100,000
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics	
07 06 01*	aqueous washing liquids and mother liquors	40,000
07 06 04*	other organic solvents, washing liquids and mother liquors	40,000
07 06 08*	other still bottoms and reaction residues	80,000
07 06 09*	halogenated filter cakes and spent absorbents	80,000
07 06 10*	other filter cakes and spent absorbents	80,000
07 06 11*	sludges from on-site effluent treatment containing hazardous substances	80,000
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11	80,000
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified	
07 07 01*	aqueous washing liquids and mother liquors	40,000
07 07 08*	other still bottoms and reaction residues	80,000
07 07 09*	halogenated filter cakes and spent absorbents	80,000
07 07 10*	other filter cakes and spent absorbents	80,000
07 07 11*	sludges from on-site effluent treatment containing hazardous substances	80,000
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11	80,000
07 07 99	wastes not otherwise specified	100,000
8	**WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS**	
08 01	wastes from MFSU and removal of paint and varnish	
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	80,000
08 01 12	waste paint and varnish other than those mentioned in 08 01 11	80,000
08 01 13*	sludges from paint or varnish containing organic solvents or other hazardous substances	80,000
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13	80,000
08 01 15*	aqueous sludges containing paint or varnish containing organic solvents or other hazardous substances	80,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
15 01 02	plastic packaging	100,000
15 01 03	wooden packaging	100,000
15 01 04	metallic packaging	100,000
15 01 05	composite packaging	100,000
15 01 06	mixed packaging	100,000
15 01 09	textile packaging	100,000
15 01 10*	packaging containing residues of or contaminated by hazardous substances	100,000
15 02	absorbents, filter materials, wiping cloths and protective clothing	
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	100,000
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	100,000
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**	
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)	
16 01 03	end-of-life tyres	100,000
16 01 07*	oil filters	100,000
16 01 12	brake pads other than those mentioned in 16 01 11	100,000
16 01 13*	brake fluids	40,000
16 01 14*	antifreeze fluids containing hazardous substances	40,000
16 01 15	antifreeze fluids other than those mentioned in 16 01 14	40,000
16 01 19	plastic	100,000
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14	100,000
16 01 22	components not otherwise specified	100,000
16 01 99	wastes not otherwise specified	100,000
16 02	wastes from electrical and electronic equipment	
16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	100,000
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	100,000
16 02 15*	hazardous components removed from discarded equipment	100,000
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15	100,000
16 03	off-specification batches and unused products	
16 03 03*	inorganic wastes containing hazardous substances	100,000
16 03 04	inorganic wastes other than those mentioned in 16 03 03	100,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22	80,000
10 01 24	sands from fluidised beds	100,000
10 01 25	wastes from fuel storage and preparation of coal-fired power plants	100,000
10 01 26	wastes from cooling-water treatment	100,000
10 01 99	wastes not otherwise specified	100,000
10 02	**wastes from the iron and steel industry**	
10 02 01	wastes from the processing of slag	100,000
10 02 02	unprocessed slag	100,000
10 02 07*	solid wastes from gas treatment containing hazardous substances	100,000
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07	100,000
10 02 10	mill scales	100,000
10 02 11*	wastes from cooling-water treatment containing oil	40,000
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11	100,000
10 02 13*	sludges and filter cakes from gas treatment containing hazardous substances	80,000
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13	80,000
10 02 15	other sludges and filter cakes	80,000
10 02 99	wastes not otherwise specified	100,000
10 03	wastes from aluminium thermal metallurgy	
10 03 02	anode scraps	100,000
10 03 04*	primary production slags	100,000
10 03 05	waste alumina	100,000
10 03 08*	salt slags from secondary production	100,000
10 03 09*	black drosses from secondary production	100,000
10 03 16	skimmings other than those mentioned in 10 03 15	80,000
10 03 17*	tar-containing wastes from anode manufacture	100,000
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17	100,000
10 03 19*	flue-gas dust containing hazardous substances	100,000
10 03 20	flue-gas dust other than those mentioned in 10 03 19	100,000
10 03 21*	other particulates and dust (including ball-mill dust) containing hazardous substances	100,000
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21	100,000
10 03 23*	solid wastes from gas treatment containing hazardous substances	100,000
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23	100,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
12 01 08*	machining emulsions and solutions containing halogens	36,000
12 01 09*	machining emulsions and solutions free of halogens	36,000
12 01 10*	synthetic machining oils	36,000
12 01 12*	spent waxes and fats	80,000
12 01 13	welding wastes	100,000
12 01 14*	machining sludges containing hazardous substances	80,000
12 01 15	machining sludges other than those mentioned in 12 01 14	80,000
12 01 16*	waste blasting material containing hazardous substances	100,000
12 01 17	waste blasting material other than those mentioned in 12 01 16	100,000
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil	80,000
12 01 19*	readily biodegradable machining oil	36,000
12 01 20*	spent grinding bodies and grinding materials containing hazardous substances	100,000
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20	100,000
12 01 99	wastes not otherwise specified	100,000
12 03	wastes from water and steam degreasing processes (except 11)	
12 03 01*	aqueous washing liquids	40,000
12 03 02*	steam degreasing wastes	40,000
13	**OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)**	
13 01	waste hydraulic oils	
13 01 04*	chlorinated emulsions	40,000
13 01 05*	non-chlorinated emulsions	40,000
13 01 09*	mineral-based chlorinated hydraulic oils	36,000
13 01 10*	mineral based non-chlorinated hydraulic oils	36,000
13 01 11*	synthetic hydraulic oils	36,000
13 01 12*	readily biodegradable hydraulic oils	36,000
13 01 13*	other hydraulic oils	36,000
13 02	waste engine, gear and lubricating oils	
13 02 04*	mineral-based chlorinated engine, gear and lubricating oils	36,000
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils	36,000
13 02 06*	synthetic engine, gear and lubricating oils	38,000
13 02 07*	readily biodegradable engine, gear and lubricating oils	36,000
13 02 08*	other engine, gear and lubricating oils	36,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
10 07 01	slags from primary and secondary production	100,000
10 07 02	dross and skimmings from primary and secondary production	40,000
10 07 03	solid wastes from gas treatment	100,000
10 07 04	other particulates and dust	100,000
10 07 05	sludges and filter cakes from gas treatment	80,000
10 07 07*	wastes from cooling-water treatment containing oil	40,000
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07	100,000
10 07 99	wastes not otherwise specified	100,000
10 08	wastes from other non-ferrous thermal metallurgy	
10 08 04	particulates and dust	100,000
10 08 08*	salt slag from primary and secondary production	100,000
10 08 09	other slags	100,000
10 08 11	dross and skimmings other than those mentioned in 10 08 10	100,000
10 08 12*	tar-containing wastes from anode manufacture	100,000
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12	100,000
10 08 14	anode scrap	100,000
10 08 15*	flue-gas dust containing hazardous substances	100,000
10 08 16	flue-gas dust other than those mentioned in 10 08 15	100,000
10 08 17*	sludges and filter cakes from flue-gas treatment containing hazardous substances	80,000
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17	80,000
10 08 19*	wastes from cooling-water treatment containing oil	40,000
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19	100,000
10 08 99	wastes not otherwise specified	100,000
10 09	wastes from casting of ferrous pieces	
10 09 03	furnace slag	100,000
10 09 05*	casting cores and moulds which have not undergone pouring containing hazardous substances	100,000
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05	100,000
10 09 07*	casting cores and moulds which have undergone pouring containing hazardous substances	100,000
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07	100,000
10 09 09*	flue-gas dust containing hazardous substances	100,000
10 09 10	flue-gas dust other than those mentioned in 10 09 09	100,000
10 09 11*	other particulates containing hazardous substances	100,000

List of EWC codes acceptablie for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
10 11 17*	sludges and filter cakes from flue-gas treatment containing hazardous substances	80,000
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17	80,000
10 11 19*	solid wastes from on-site effluent treatment containing hazardous substances	100,000
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19	100,000
10 11 99	wastes not otherwise specified	100,000
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products	
10 12 01	waste preparation mixture before thermal processing	100,000
10 12 03	particulates and dust	100,000
10 12 05	sludges and filter cakes from gas treatment	80,000
10 12 06	discarded moulds	100,000
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)	100,000
10 12 09*	solid wastes from gas treatment containing hazardous substances	100,000
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09	100,000
10 12 11*	wastes from glazing containing heavy metals	100,000
10 12 12	wastes from glazing other than those mentioned in 10 12 11	100,000
10 12 13	sludge from on-site effluent treatment	80,000
10 12 99	wastes not otherwise specified	100,000
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them	
10 13 01	waste preparation mixture before thermal processing	100,000
10 13 04	wastes from calcination and hydration of lime	100,000
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)	100,000
10 13 07	sludges and filter cakes from gas treatment	80,000
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09	100,000
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10	100,000
10 13 12*	solid wastes from gas treatment containing hazardous substances	100,000
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12	100,000
10 13 14	waste concrete and concrete sludge	80,000
10 13 99	wastes not otherwise specified	100,000
11	**WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDROMETALLURGY**	
11 01	wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)	
11 01 08*	phosphatising sludges	80,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
10 09 12	other particulates other than those mentioned in 10 09 11	100,000
10 09 13*	waste binders containing hazardous substances	100,000
10 09 14	waste binders other than those mentioned in 10 09 13	100,000
10 09 15*	waste crack-indicating agent containing hazardous substances	100,000
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15	100,000
10 09 99	wastes not otherwise specified	100,000
10 10	**wastes from casting of non-ferrous pieces**	
10 10 03	furnace slag	100,000
10 10 05*	casting cores and moulds which have not undergone pouring, containing hazardous substances	100,000
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05	100,000
10 10 07*	casting cores and moulds which have undergone pouring, containing hazardous substances	100,000
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07	100,000
10 10 09*	flue-gas dust containing hazardous substances	100,000
10 10 10	flue-gas dust other than those mentioned in 10 10 09	100,000
10 10 11*	other particulates containing hazardous substances	100,000
10 10 12	other particulates other than those mentioned in 10 10 11	100,000
10 10 13*	waste binders containing hazardous substances	100,000
10 10 14	waste binders other than those mentioned in 10 10 13	100,000
10 10 15*	waste crack-indicating agent containing hazardous substances	100,000
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15	100,000
10 10 99	wastes not otherwise specified	100,000
10 11	**wastes from manufacture of glass and glass products**	
10 11 03	waste glass-based fibrous materials	100,000
10 11 05	particulates and dust	100,000
10 11 09*	waste preparation mixture before thermal processing, containing hazardous substances	100,000
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09	100,000
10 11 11*	waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)	100,000
10 11 12	waste glass other than those mentioned in 10 11 11	100,000
10 11 13*	glass-polishing and -grinding sludge containing hazardous substances	80,000
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13	80,000
10 11 15*	solid wastes from flue-gas treatment containing hazardous substances	100,000
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15	100,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
10 03 25*	sludges and filter cakes from gas treatment containing hazardous substances	80,000
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25	80,000
10 03 27*	wastes from cooling-water treatment containing oil	40,000
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27	100,000
10 03 29*	wastes from treatment of salt slags and black drosses containing hazardous substances	100,000
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29	100,000
10 03 99	wastes not otherwise specified	100,000
10 04	**wastes from lead thermal metallurgy**	
10 04 09*	wastes from cooling-water treatment containing oil	40,000
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09	100,000
10 04 99	wastes not otherwise specified	100,000
10 05	**wastes from zinc thermal metallurgy**	
10 05 01	slags from primary and secondary production	100,000
10 05 03*	flue-gas dust	100,000
10 05 04	other particulates and dust	100,000
10 05 05*	solid waste from gas treatment	100,000
10 05 06*	sludges and filter cakes from gas treatment	80,000
10 05 08*	wastes from cooling-water treatment containing oil	40,000
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08	100,000
10 05 11	dross and skimmings other than those mentioned in 10 05 10	80,000
10 05 99	wastes not otherwise specified	100,000
10 06	**wastes from copper thermal metallurgy**	
10 06 01	slags from primary and secondary production	100,000
10 06 02	dross and skimmings from primary and secondary production	100,000
10 06 03*	flue-gas dust	100,000
10 06 04	other particulates and dust	100,000
10 06 06*	solid wastes from gas treatment	100,000
10 06 07*	sludges and filter cakes from gas treatment	80,000
10 06 09*	wastes from cooling-water treatment containing oil	40,000
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09	100,000
10 06 99	wastes not otherwise specified	100,000
10 07	**wastes from silver, gold and platinum thermal metallurgy**	

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
11 01 09*	sludges and filter cakes containing hazardous substances	80,000
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09	80,000
11 01 11*	aqueous rinsing liquids containing hazardous substances	40,000
11 01 12	aqueous rinsing liquids other than those mentioned in 11 01 11	40,000
11 01 13*	degreasing wastes containing hazardous substances	100,000
11 01 14	degreasing wastes other than those mentioned in 11 01 13	100,000
11 01 15*	eluate and sludges from membrane systems or ion exchange systems containing hazardous substances	80,000
11 01 16*	saturated or spent ion exchange resins	100,000
11 01 98*	other wastes containing hazardous substances	100,000
11 01 99	wastes not otherwise specified	100,000
11 02	**wastes from non-ferrous hydrometallurgical processes**	
11 02 02*	sludges from zinc hydrometallurgy (including jarosite, goethite)	80,000
11 02 03	wastes from the production of anodes for aqueous electrolytical processes	100,000
11 02 05*	wastes from copper hydrometallurgical processes containing hazardous substances	100,000
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05	100,000
11 02 07*	other wastes containing hazardous substances	100,000
11 02 99	wastes not otherwise specified	100,000
11 03	**sludges and solids from tempering processes**	
11 03 02*	other waste	100,000
11 05	**wastes from hot galvanising processes**	
11 05 03*	solid wastes from gas treatment	100,000
11 05 04*	spent flux	40,000
11 05 99	wastes not otherwise specified	100,000
12	**WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS**	
12 01	**wastes from shaping and physical and mechanical surface treatment of metals and plastics**	
12 01 01	ferrous metal filings and turnings	100,000
12 01 02	ferrous metal dust and particles	100,000
12 01 03	non-ferrous metal filings and turnings	100,000
12 01 04	non-ferrous metal dust and particles	100,000
12 01 05	plastics shavings and turnings	100,000
12 01 06*	mineral-based machining oils containing halogens (except emulsions and solutions)	36,000
12 01 07*	mineral-based machining oils free of halogens (except emulsions and solutions)	36,000

List of EWC codes acceptabile for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15	40,000
08 04 17*	rosin oil	36,000
08 04 99	wastes not otherwise specified	100,000
9	**WASTES FROM THE PHOTOGRAPHIC INDUSTRY**	
09 01	wastes from the photographic industry	
09 01 01*	water-based developer and activator solutions	40,000
09 01 02*	water-based offset plate developer solutions	40,000
09 01 03*	solvent-based developer solutions	40,000
09 01 04*	fixer solutions	40,000
09 01 05*	bleach solutions and bleach fixer solutions	40,000
09 01 07	photographic film and paper containing silver or silver compounds	100,000
09 01 08	photographic film and paper free of silver or silver compounds	100,000
09 01 10	single-use cameras without batteries	100,000
09 01 99	wastes not otherwise specified	100,000
10	**WASTES FROM THERMAL PROCESSES**	
10 01	wastes from power stations and other combustion plants (except 19)	
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)	100,000
10 01 02	coal fly ash	100,000
10 01 03	fly ash from peat and untreated wood	100,000
10 01 04*	oil fly ash and boiler dust	100,000
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form	100,000
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form	80,000
10 01 13*	fly ash from emulsified hydrocarbons used as fuel	100,000
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing hazardous substances	100,000
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14	100,000
10 01 16*	fly ash from co-incineration containing hazardous substances	100,000
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16	100,000
10 01 18*	wastes from gas cleaning containing hazardous substances	100,000
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18	100,000
10 01 20*	sludges from on-site effluent treatment containing hazardous substances	80,000
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20	80,000
10 01 22*	aqueous sludges from boiler cleansing containing hazardous substances	80,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
13 03	**waste insulating and heat transmission oils**	
13 03 06*	mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01	36,000
13 03 07*	mineral-based non-chlorinated insulating and heat transmission oils	36,000
13 03 08*	synthetic insulating and heat transmission oils	36,000
13 03 09*	readily biodegradable insulating and heat transmission oils	36,000
13 03 10*	other insulating and heat transmission oils	36,000
13 04	**bilge oils**	
13 04 01*	bilge oils from inland navigation	36,000
13 04 02*	bilge oils from jetty sewers	36,000
13 04 03*	bilge oils from other navigation	36,000
13 05	**oil/water separator contents**	
13 05 01*	solids from grit chambers and oil/water separators	100,000
13 05 02*	sludges from oil/water separators	80,000
13 05 03*	interceptor sludges	80,000
13 05 06*	oil from oil/water separators	36,000
13 05 07*	oily water from oil/water separators	40,000
13 05 08*	mixtures of wastes from grit chambers and oil/water separators	80,000
13 07	**wastes of liquid fuels**	
13 07 01*	fuel oil and diesel	36,000
13 07 02*	petrol	36,000
13 07 03*	other fuels (including mixtures)	36,000
13 08	**oil wastes not otherwise specified**	
13 08 01*	desalter sludges or emulsions	80,000
13 08 02*	other emulsions	40,000
13 08 99*	wastes not otherwise specified	40,000
14	**WASTE ORGANIC SOLVENTS, REFRIGERANTS AND PROPELLANTS (except 07 and 08)**	
14 06	**waste organic solvents, refrigerants and foam/aerosol propellants**	
14 06 03*	other solvents and solvent mixtures	40,000
14 06 05*	sludges or solid wastes containing other solvents	80,000
15	**WASTE PACKAGING, ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED**	
15 01	**packaging (including separately collected municipal packaging waste)**	
15 01 01	paper and cardboard packaging	100,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15	80,000
08 01 17*	wastes from paint or varnish removal containing organic solvents or other hazardous substances	80,000
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17	80,000
08 01 19*	aqueous suspensions containing paint or varnish containing organic solvents or other hazardous substances	40,000
08 01 20	aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19	40,000
08 01 21*	waste paint or varnish remover	40,000
08 01 99	wastes not otherwise specified	100,000
08 02	**wastes from MFSU of other coatings (including ceramic materials)**	
08 02 01	waste coating powders	80,000
08 02 02	aqueous sludges containing ceramic materials	40,000
08 02 03	aqueous suspensions containing ceramic materials	80,000
08 02 99	wastes not otherwise specified	100,000
08 03	**wastes from MFSU of printing inks**	
08 03 07	aqueous sludges containing ink	80,000
08 03 08	aqueous liquid waste containing ink	40,000
08 03 12*	waste ink containing hazardous substances	40,000
08 03 13	waste ink other than those mentioned in 08 03 12	40,000
08 03 14*	ink sludges containing hazardous substances	80,000
08 03 15	ink sludges other than those mentioned in 08 03 14	80,000
08 03 16*	waste etching solutions	40,000
08 03 17*	waste printing toner containing hazardous substances	80,000
08 03 18	waste printing toner other than those mentioned in 08 03 17	80,000
08 03 19*	disperse oil	36,000
08 03 99	wastes not otherwise specified	100,000
08 04	**wastes from MFSU of adhesives and sealants (including waterproofing products)**	
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances	80,000
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09	80,000
08 04 11*	adhesive and sealant sludges containing organic solvents or other hazardous substances	80,000
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11	80,000
08 04 13*	aqueous sludges containing adhesives or sealants containing organic solvents or other hazardous substances	80,000
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13	80,000
08 04 15*	aqueous liquid waste containing adhesives or sealants containing organic solvents or other hazardous substances	40,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
16 03 05*	organic wastes containing hazardous substances	100,000
16 03 06	organic wastes other than those mentioned in 16 03 05	100,000
16 05	**gases in pressure containers and discarded chemicals**	
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	80,000
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances	80,000
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances	80,000
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08	80,000
16 06	**batteries and accumulators**	
16 06 06*	separately collected electrolyte from batteries and accumulators	40,000
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)	
16 07 08*	wastes containing oil	36,000
16 07 09*	wastes containing other hazardous substances	100,000
16 07 99	wastes not otherwise specified	100,000
16 08	**spent catalysts**	
16 08 04	spent fluid catalytic cracking catalysts (except 16 08 07)	40,000
16 08 05*	spent catalysts containing phosphoric acid	80,000
16 08 06*	spent liquids used as catalysts	40,000
16 08 07*	spent catalysts contaminated with hazardous substances	100,000
16 09	**oxidising substances**	
16 09 01*	permanganates, for example potassium permanganate	80,000
16 09 02*	chromates, for example potassium chromate, potassium or sodium dichromate	80,000
16 09 04*	oxidising substances, not otherwise specified	80,000
16 10	**aqueous liquid wastes destined for off-site treatment**	
16 10 01*	aqueous liquid wastes containing hazardous substances	40,000
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	40,000
16 10 03*	aqueous concentrates containing hazardous substances	40,000
16 10 04	aqueous concentrates other than those mentioned in 16 10 03	40,000
16 11	**waste linings and refractories**	
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances	100,000
16 11 02	carbon-based linings and refractories from metallurgical processes other than those mentioned in 16 11 01	100,000
16 11 03*	other linings and refractories from metallurgical processes containing hazardous substances	100,000
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03	100,000

List of EWC codes acceptabile for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
07 02	**wastes from the MFSU of plastics, synthetic rubber and man-made fibres**	
07 02 01*	aqueous washing liquids and mother liquors	40,000
07 02 04*	other organic solvents, washing liquids and mother liquors	40,000
07 02 08*	other still bottoms and reaction residues	80,000
07 02 09*	halogenated filter cakes and spent absorbents	80,000
07 02 10*	other filter cakes and spent absorbents	80,000
07 02 11*	sludges from on-site effluent treatment containing hazardous substances	80,000
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11	80,000
07 02 13	waste plastic	100,000
07 02 14*	wastes from additives containing hazardous substances	80,000
07 02 15	wastes from additives other than those mentioned in 07 02 14	80,000
07 02 16*	wastes containing hazardous silicones	100,000
07 02 17	wastes containing silicones other than those mentioned in 07 02 16	100,000
07 02 99	wastes not otherwise specified	100,000
07 03	**wastes from the MFSU of organic dyes and pigments (except 06 11)**	
07 03 01*	aqueous washing liquids and mother liquors	40,000
07 03 08*	other still bottoms and reaction residues	80,000
07 03 09*	halogenated filter cakes and spent absorbents	80,000
07 03 10*	other filter cakes and spent absorbents	80,000
07 03 11*	sludges from on-site effluent treatment containing hazardous substances	80,000
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11	80,000
07 03 99	wastes not otherwise specified	100,000
07 04	**wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**	
07 04 01*	aqueous washing liquids and mother liquors	40,000
07 04 08*	other still bottoms and reaction residues	80,000
07 04 09*	halogenated filter cakes and spent absorbents	80,000
07 04 10*	other filter cakes and spent absorbents	80,000
07 04 11*	sludges from on-site effluent treatment containing hazardous substances	80,000
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11	80,000
07 04 99	wastes not otherwise specified	100,000
07 05	**wastes from the MFSU of pharmaceuticals**	
07 05 01*	aqueous washing liquids and mother liquors	40,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection(for example dressings, plaster casts, linen, disposable clothing, diapers)	100,000
18 01 07	chemicals other than those mentioned in 18 01 06	80,000
18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals	
18 02 01	sharps (except 18 02 02)	100,000
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection	100,000
18 02 06	chemicals other than those mentioned in 18 02 05	80,000
18 02 08	medicines other than those mentioned in 18 02 07	100,000
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**	
19 01	wastes from incineration or pyrolysis of waste	
19 01 05*	filter cake from gas treatment	80,000
19 01 06*	aqueous liquid wastes from gas treatment and other aqueous liquid wastes	40,000
19 01 10*	spent activated carbon from flue-gas treatment	100,000
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17	100,000
19 01 99	wastes not otherwise specified	100,000
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)	
19 02 03	premixed wastes composed only of non-hazardous wastes	100,000
19 02 05*	sludges from physico/chemical treatment containing hazardous substances	80,000
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05	80,000
19 02 07*	oil and concentrates from separation	36,000
19 02 08*	liquid combustible wastes containing hazardous substances	40,000
19 02 09*	solid combustible wastes containing hazardous substances	100,000
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09	100,000
19 02 11*	other wastes containing hazardous substances	100,000
19 02 99	wastes not otherwise specified	100,000
19 04	vitrified waste and wastes from vitrification	
19 04 02*	fly ash and other flue-gas treatment wastes	100,000
19 04 03*	non-vitrified solid phase	100,000
19 04 04	aqueous liquid wastes from vitrified waste tempering	40,000
19 05	wastes from aerobic treatment of solid wastes	
19 05 01	non-composted fraction of municipal and similar wastes	100,000

List of EWC codes acceptabile for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
04 01 01	fleshings and lime split wastes	100,000
04 01 02	liming waste	100,000
04 01 03*	degreasing wastes containing solvents without a liquid phase	100,000
04 01 04	tanning liquor containing chromium	40,000
04 01 05	tanning liquor free of chromium	40,000
04 01 06	sludges, in particular from on-site effluent treatment containing chromium	80,000
04 01 07	sludges, in particular from on-site effluent treatment free of chromium	80,000
04 01 08	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium	100,000
04 01 09	wastes from dressing and finishing	100,000
04 01 99	wastes not otherwise specified	100,000
04 02	wastes from the textile industry	
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)	100,000
04 02 10	organic matter from natural products (for example grease, wax)	100,000
04 02 15	wastes from finishing other than those mentioned in 04 02 14	100,000
04 02 16*	dyestuffs and pigments containing hazardous substances	100,000
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16	100,000
04 02 19*	sludges from on-site effluent treatment containing hazardous substances	80,000
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19	80,000
04 02 21	wastes from unprocessed textile fibres	100,000
04 02 22	wastes from processed textile fibres	100,000
04 02 99	wastes not otherwise specified	100,000
5	**WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL**	
05 01	wastes from petroleum refining	
05 01 02*	desalter sludges	80,000
05 01 03*	tank bottom sludges	80,000
05 01 04*	acid alkyl sludges	80,000
05 01 05*	oil spills	40,000
05 01 06*	oily sludges from maintenance operations of the plant or equipment	40,000
05 01 07*	acid tars	80,000
05 01 08*	other tars	80,000
05 01 09*	sludges from on-site effluent treatment containing hazardous substances	80,000
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09	80,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
19 13 07*	aqueous liquid wastes and aqueous concentrates from groundwater remediation containing hazardous substances	40,000
19 13 08	aqueous liquid wastes and aqueous concentrates from groundwater remediation other than those mentioned in 19 13 07	40,000
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**	
20 01	separately collected fractions (except 15 01)	
20 01 10	clothes	100,000
20 01 17*	photochemicals	80,000
20 01 25	edible oil and fat	80,000
20 01 26*	oil and fat other than those mentioned in 20 01 25	80,000
20 01 27*	paint, inks, adhesives and resins containing hazardous substances	80,000
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27	80,000
20 01 29*	detergents containing hazardous substances	80,000
20 01 30	detergents other than those mentioned in 20 01 29	80,000
20 01 32	medicines other than those mentioned in 20 01 31	80,000
20 01 37*	wood containing hazardous substances	100,000
20 01 41	wastes from chimney sweeping	100,000
20 01 99	other fractions not otherwise specified	100,000
20 02	garden and park wastes (including cemetery waste)	
20 02 01	biodegradable waste	100,000
20 02 03	other non-biodegradable wastes	100,000

Every EWC code marked with * is considered hazardous waste.

Maximal annual capacity of thermal waste treatment is limitted to total 100,000 tons/year for all the EWC codes listed.

List of EWC codes acceptablie for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	R 1 OPERATION MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR
2	**WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING**	
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing	
02 01 01	sludges from washing and cleaning	80,000
02 01 04	waste plastics (except packaging)	100,000
02 01 09	agrochemical waste other than those mentioned in 02 01 08	100,000
02 01 99	wastes not otherwise specified	100,000
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin	
02 02 01	sludges from washing and cleaning	80,000
02 02 03	materials unsuitable for consumption or processing	100,000
02 02 04	sludges from on-site effluent treatment	80,000
02 02 99	wastes not otherwise specified	100,000
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation and fermentation	
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation	80,000
02 03 02	wastes from preserving agents	100,000
02 03 03	wastes from solvent extraction	100,000
02 03 04	materials unsuitable for consumption or processing	100,000
02 03 05	ludges from on-site effluent treatment	80,000
02 03 99	wastes not otherwise specified	100,000
02 04	wastes from sugar processing	
02 04 01	soil from cleaning and washing beet	100,000
02 04 02	off-specification calcium carbonate	100,000
02 04 03	sludges from on-site effluent treatment	80,000
02 04 99	wastes not otherwise specified	100,000
02 05	wastes from the dairy products industry	
02 05 01	materials unsuitable for consumption or processing	100,000
02 05 02	sludges from on-site effluent treatment	80,000
02 05 99	wastes not otherwise specified	100,000
02 06	wastes from the baking and confectionery industry	
02 06 01	materials unsuitable for consumption or processing	100,000
02 06 02	wastes from preserving agents	100,000

List of EWC codes acceptablle for thermal waste treatment in the Waste-to-Energy Plant Prahovo

EWC code	Description	MAXIMAL ANNUAL THERMAL WASTE TREATMENT CAPACITY, UP TO - T/YEAR

Maximal thermal treatment capacitiy for individual type of waste (EWC codes) is given in accordance with:

1. anticipated aggregate phase and/or phycical composition of waste
2. maximal annual capacity of the waste pre-treatment & dosing lines/systems:

Waste pre-treatment & dosing lines/systems of the Waste-to-Energy Plant		Maximal annual capacity, t/year
1	Line for dosing of liquid waste (from the liquid waste storage tanks)	40,000
2	Line for dosing of sludge waste (from the sludge storage bunker)	80,000
3	Line for dosing of pre-treated waste of heterogeneous multiphase composition (e.g., packaged liquid, solid and sludge wastes in IBC containers, barrels, etc., after fine grinding in an inert atmosphere - under nitrogen)	80,000
4	Line for dosing of pre-treated solid waste (i.e., after shredding, from the solid waste storage bunker)	100,000

АМБАСАДА РЕПУБЛИКЕ СРБИЈЕ
ПОСОЛСТВО НА РЕПУБЛИКА СЪРБИЯ
EMBASSY OF THE REPUBLIC OF SERBIA
S O F I A

№ 100-14/2025

Посолството на Република Сърбия изразява своето уважение към Министерството на външните работи на Република България и по повод нота на министерството № 04-00-949-36 от 15 ноември 2024 г. има честта да предаде копие на писмо с придружаваща документация на английски език, от министъра на околната среда на Република Сърбия, Н. Пр. Ирена Вуйович, изпратено до министъра на околната среда и водите на Република България Н. Пр. магистър Петър Димитров, и да го помолим да препрати писмото на високопоставения адресат.

Посолството на Република Сърбия в София използва случая да поднови уверенията си пред Министерството на външните работи на Република България за голямото си уважение към него. 34

София, 14 януари 2025 г.

Приложение: съгласно текста

До:
МИНИСТЕРСТВОТО НА ВЪНШНИТЕ РАБОТИ
НА РЕПУБЛИКА БЪЛГАРИЯ
С О Ф И Я