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Presentation Statement

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This Presentation Report has been drawn up according to the requirements laid down by Law 292/2018 on the assessment of the impact of certain public and private projects on the environment, Annex 5A, and covers the works for the construction of a new combined-cycle gas turbine power plant, MASS Mintia, works to be performed within the project *“Demolition of Buildings on the Proposed Site and Construction of the MASS Mintia Power Plant, in Mintia Village, Veșel Commune, Hunedoara County – MASS Mintia Power Plant Construction Stage”*.

The content set forth by the above-mentioned Annex has been adapted to the particularities of the project.

The Presentation Report was requested by the Hunedoara Environmental Protection Agency in the Initial Assessment Stage Decision 1202 of 16.02.2023 (**Annex A**).

I. THE PROJECT

*“Demolition of Buildings on the Proposed Site and Construction of the MASS Mintia Power Plant, in Mintia Village, Veșel Commune, Hunedoara County – **MASS Mintia Power Plant Construction Stage**”.*

II. HOLDER/CONTACT PERSONS

II.1 The Company

The Holder/Beneficiary: MASS GLOBAL ENERGY ROM

II.2 Post address:

Address of the Beneficiary: MASS GLOBAL ENERGY ROM, VAT Reg. No. 45832234, Trade Register number: J40/5308/2022, VAT Reg. No. 45832234, European Unique Identifier (EUID) ROONRC J40/5308/2022, Bucharest, Sector 1, Str. Emanoil Porumbaru, Nr. 82-84, Et. 1, Ap. 4.

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This documentation is drawn up by certified experts - main level, registered in the Register of Experts Certified for Drawing Up Environmental Studies (**Annex B**).

III. PROJECT DESCRIPTION

III.1. Project Summary

III.1.1. Current situation

Societatea Complexul Energetic Hunedoara S.A. – Sucursala Electrocentrale Deva (CTE Mintia) was operational in the period 1969-1980, being built as a regulating thermal power plant within the National Power System (NPS), being strategically positioned, thus acting as a base power plant in the system¹.

Societatea Complexul Energetic Hunedoara S.A. – Sucursala Electrocentrale Deva S.A. obtained licences for:

- the generation and supply of electricity;
- the generation, transport, distribution, and supply of thermal energy;
- the provision of technological system services.

The main object of Societatea Complexul Energetic Hunedoara S.A. – Sucursala Electrocentrale Deva S.A. was *Electricity generation - NACE Code 3511*.

The activity carried out by Sucursala Electrocentrale Deva (SE Deva) was included in Annex I to Law 278/2013 on industrial emissions: “1. Energy installations. 1.1. Combustion of fuels in installations with a total rated thermal output above 50 MW.”

The Mintia - Deva Thermal Power Plant was established on 31 March 1966, for electricity generation, and it was initially designed with 4 power units of 210 MW each. Power unit 1 was first connected to the NPS on 30 November 1969.

The Mintia thermal power plant was commissioned in three stages, according to a strict schedule, as follows:

- Between 1969 and 1971, the first 3 power units were put into use, at 6 to 8 months long intervals. Thus, power unit 2 was launched exactly 6 months after the start-up of the plant, on 31.05.1970, being followed by the start-up of power unit 3, on 28.11.1970, and the first stage of 840 MW was completed on 10.08.1971, with the inauguration of power unit 4;
- In the spring of 1975, there were started the investment works included in the 2nd stage of commissioning of the plant, ended on 30 April 1977 with the commissioning of power unit 5;
- The last stage ended on 31 August 1980, with the commissioning of power unit 6. At that time, the installed power of the thermal power plant reached 1,260 MW.

SE Deva was a cogeneration plant with a conversion efficiency of approximately 32% and a current installed capacity of 1,075 MW (4 power units of 210 MW each and 1 power unit of 235 MW). The advantages in terms of energy, economy, and ecology of cogeneration, as a solution for the combined and simultaneous generation of electrical and thermal energy, classify it into the category of “clean” energy generation technologies.

The energy generation equipment of SE Deva is grouped in **3 Large Combustion Plants (LCP)**, as follows:

- **LCP 1** (2A and 2B power boilers), with a total installed thermal power of 528 MW_t (2 x 264 MW_t), commissioned in 1969, designed to operate using coal and natural gas or fuel oil as fuels;
- **LCP 2** (3A, 3B and 4A, 4B power boilers), with a total installed thermal power of 1,056 MW_t (4 x 264 MW_t), commissioned in 1971, designed to operate using coal and natural gas or fuel oil as fuels;

1 2019 Annual Environmental Report for Societatea Complexul Energetic Hunedoara S.A. – Sucursala Electrocentrale Deva

- **LCP 3** (5A, 5B and 6A, 6B power boilers), with a total installed thermal power of 1,056 MW_t (4 x 264 MW_t), commissioned in 1977/1980, designed to operate using coal and natural gas or fuel oil as fuels.

The main fuel used by LCP was coal from Valea Jiului with a lower calorific value of 3150-3800 kcal/kg and imported coal with a lower calorific value of 5000-6000 kcal/kg and a sulphur content of less than 1%. Coal was transported by rail. The auxiliary fuels, for starting and stabilising the flame, were natural gases with a lower calorific value of 8427 kcal/Sm³, provided by the regulation and metering station of SNGTN Transgaz Mediaş.

The electricity was delivered to the NPS in an interconnection station - Mintia - of 110 kV, 220 kV and 400 kV.

According to the *Romania's Energy Strategy 2019–2030 with the perspective of 2050*, the SE Deva coal-fired units, with the exception of unit 3, will be withdrawn, with very little prospect of being restarted.

As of 5.03.2021, the activity of the Sucursala Electrocentrale Deva was ceased and on 28.04.2021 the industrial facility was placed in conservation, in the absence of the necessary investments to be able to comply with the environmental provisions of the European Union. By Letter 10200/AAA/07.03.2022, APM Hunedoara established the Environmental Obligations for the cessation of activity and the sale of assets at the Sucursala Electrocentrale Deva².

MASS GLOBAL ENERGY ROM S.R.L., part of the Mass Group Holding, was successful in the procedure for the sale and selection of an investor for SE Deva, within Complexul Energetic Hunedoara S.A. (CE Hunedoara).

III.1.2. Project proposals

The MASS Mintia combined cycle gas turbine power plant will be located within the site of the former SE Deva industrial facility, on the left bank of the Mureş River, downstream of Mintia, to the NW of Deva, at about 9 km. The premises of the plant run parallel to DN 7, the current Deva-Arad railway (in the km 483÷480.2 area) and the Mureş River.

SE Electrocentrale Deva is neighboured as follows:

- to the North: industrial area (Mining Preparation and Asphalt Station) and forest: DN 7 Deva-Arad, the Mureş River, and the road construction company S. STRABAG S.A.).
- to the South: forest and agricultural land;
- to the South-West: S.C. Messer Energo Gaz S.R.L. Deva – Mintia;
- to the West: residential area (Veşel Commune), agricultural land and industrial area (place of business of the FCC-Astaldi-Convensa Association, S.C. Energomontaj S.A. Deva, S.C. Energoconstrucția S.A. Deva);
- to the East: agricultural land and the 220/110/400 KV transformer station of CN Transelectrica S.A., Sucursala de Transport Timișoara, Mintia.

The SE Deva site spreads over a total land area of 340.58 ha, of which:

- premises, current area of 42.72 ha;
- the Mureş slag-ash storage facility, area of 58.89 ha (closed on 31 December 2006, according to GD 349/2005);
- the Bejan slag-ash storage facility (in operation), current area of 142 ha;
- new Mureş right bank storage facility (thick sludge), area of 45.79 ha;

² The Management Report for the 2021 financial year,
http://www.cenh.ro/images/File/Situatii%20financiare/2021/Raport_administratori_CEH_2021.pdf

- plot located outside the premises, area of 3.9249 ha (water cooling towers, sieve housing, equipment central warehouse).

In order to place the new MASS Mintia combined cycle gas turbine power plant, there will be demolished some of the existing buildings, located in the southeast part of the SE Deva premises, in order to install the new technological equipment. The works for the demolition of the equipment existing on the site are covered by a separate project.

The new owner, MASS GLOBAL ENERGY ROM, purchased under a Sales Contract (Notarial Certificate 1950/27.12.2022) an area of 325,101 m² according to the Vețel Land Register extract no. 63472, within the built-up area, in Mintia, Str. Șantierului, Hunedoara County – Main premises.

According to the Cadastral Plan Extract from the Land Register for the Real Estate Property with the cadastral number 62472/the Territorial Administrative Unit Vețel, the area determined in the Stereo 70 projection plan is 325,101 m² of industrial premises, on which there will be performed the works for the construction of a new natural gas power plant, which will occupy an area of approximately 75,000 m².

There will be made the following entry for the real estate property *“disassembly, demolition, and assignment prohibitions until the date of obtaining building permits for the new facilities, and obligation to complete, until 31.12. 2026, the investment to create an energy capacity with new combined cycle, with an installed power of at least 1290 MW in gas and renewable energy band, of which 800 MW generated, in favour of S.C. CE Hunedoara S.A.”*

The investment consists in the construction on the site owned by MASS GLOBAL ENERGY ROM S.R.L., part of the Mass Group Holding, of the MASS Mintia combined cycle gas turbine (CCGT) power plant, equipped with two gas turbines, two heat recovery boilers and a steam turbine, totalling an installed power of 1770 MW_e (rated thermal power 2 x 1557 MW_t), equipped as follows:

- 2 identical gas turbines (GTs), Siemens 9000 HL, with a generator unit capacity of 600 MWe;
- 2 heat recovery steam generator (HRSG) without supplementary firing, to generate the superheated steam required for the condensing steam turbine;
- 1 condensation steam turbine (ST), Siemens SST5-5000, with a generator unit capacity of 570 MWe.

The first stage of the investment, which consists of the commissioning of the two gas turbines and their operation in open cycle, will be completed within 24 months, and the project will reach full maturity (combined cycle operation with two gas turbines, two steam recovery boilers and a steam turbine) in 36 months. All components of the power plant will be prepared for the transition to new hydrogen-based energy generation technologies.

The configuration of the new power plant provides an auxiliary steam boiler which, in cases of total shutdown of the new power plant, will ensure the steam required to start the units from any thermal state, the steam for the generation of thermal energy to heat the new combined cycle power plant (the related administrative premises), as well as the steam to protect the equipment/keep the equipment warm.

The gas turbines and the auxiliary steam boiler will operate with natural gas supplied at the boundary of the MASS Mintia premises by TRANSGAZ.

The secondary denoxing process - selective catalytic reduction (SCR), with ammonia, will be used to reduce the NO_x emissions from the flue-gases generated by large combustion plants.

The flue-gases generated by each GT+HRB set of the MASS Mintia combined cycle gas turbine power plant will be discharged by means of two main stacks located after the heat recovery boilers, with a physical height of 65 m and an internal diameter at the top of 7.19 m. The GTs will also be able to discharge flue-gases by means of two by-pass stacks, with a physical height of 60 m and an internal diameter at the top of 7.9 m.

The auxiliary steam boiler will be used to start the power plant and will be fitted with a stack with a physical height of 16 m.

The height of the flue-gas stacks required for the new investment was determined both in gas-dynamic terms and in terms of the dispersion of flue-gases in the atmosphere in order to protect human health and the environment, considering the fuel used and the technical characteristics of the new energy installations, as well as the existence in the area of other sources of emissions of polluting substances.

Each GT and, respectively, each GT+HRSG set make up large combustion plants (thermal power ≥ 50 MW) which, in operation, must comply with both the provisions of **Law 278/2013** on industrial emissions, the activity carried out being included in Annex 1, as well as of the **Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants**.

In accordance with the *Law 278/2013, Annex 5 Technical provisions relating to combustion plants, part 2*, the emission limit values (mg/Nm^3) for NO_x and CO laid down for a loading above 70%, at an O_2 content of 15% are the following:

- NO_x 50 mg/Nm^3 ;
- CO 100 mg/Nm^3 .

According to *Law 278/2013 on industrial emissions*, Article 14(3), the conclusions regarding the best available techniques (BAT) underlie the establishment of the conditions for authorising the installations covered by Chapter III of the Law, and the competent authorities must establish emission limit values ensuring that, under normal operating conditions, the emissions do not exceed the emission levels associated with the best available techniques, set out in the BAT conclusions.

For large combustion plants, in accordance with the *Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants*, the BAT provisions for combined cycle gas turbines (CCGT) and open cycle gas turbines are as follows:

Table 1 BAT-associated emission levels for CCGTs and open cycle GT

Type of combustion unit	Thermal power (MW_{th})	Net electrical efficiency (%)	NO_x BAT-AELs (mg/Nm^3)		CO BAT-AELs (mg/Nm^3)	NH_3 BAT-AELs (mg/Nm^3)
			Annual average value	Daily average value or average value over the sampling period	Annual average value	Annual average value or average value over the sampling period
CCGT	≥ 600	$57 \div 60.5$	$10 \div 30^*$	$15 \div 40^*$	$5 \div 30^{**}$	3^{****}
OCGT (open cycle GT)	≥ 50	$36 \div 41.5$	$15 \div 35$	$25 \div 50$	$5 \div 40^{***}$	10^{****}

NOTE:

* For installations with a net electrical efficiency (EE) higher than 55%, there may be applied a correction factor to the upper limit of the BAT-AEL range, equivalent to $[\text{upper limit}] \times \text{EE}/55$, where EE is the net electrical efficiency of the plant, set under base load ISO conditions.

** For installations with a net electrical efficiency (EE) higher than 55%, there may be applied a correction factor to the upper limit of the range, equivalent to $[\text{upper limit}] \times \text{EE}/55$, where EE is the net electrical efficiency of the plant, set under base load ISO conditions.

*** For installations with a net electrical efficiency (EE) higher than 39%, there may be applied a correction factor to the upper limit of this range, equivalent to $[\text{upper limit}] \times \text{EE}/39$, where EE is the net electrical efficiency or the net mechanical efficiency of the plant, set under base load ISO conditions.

**** BAT-associated emission levels (BAT-AEL) for NH_3 airborne emissions resulting from the use of SCR and/or SNCR (3-10 mg/Nm^3). The lower limit of the range can be reached when using SCR and the upper limit of the range can be reached when using SNCR without wet reduction techniques.

The auxiliary steam boiler is a medium combustion plant, and its operation must be compliant with *Law 188/2018 on the limitation of emissions of certain pollutants into the air from medium combustion plants* for new combustion plants.

Thus, according to the law and considering the type of fuel used (natural gas), the NO_x emissions generated by the auxiliary steam boiler will not exceed in operation the emission limit values provided in Part 2 of Annex 2, i.e. 100 mg/Nm^3 .

This Presentation Report only covers the works for the construction of the MASS Mintia combined cycle gas turbine power plant.

The works for the demolition of the constructions located on the existing site are covered by another investment, for which the Screening Stage Decision 1202/22.05.2023 and the Decommissioning Authorisation 9/30.05.2023 were obtained

The natural gas transmission pipeline for supplying MASS Mintia CCGT is a *project of national importance in the field of natural gas* developed by TRANSGAZ (GD 129/17.02.2023), to be financed under the Modernisation and Development Programme.

III.2 Justification of the need for implementing the project

This investment - the economic activity of **natural gas-based electricity generation**, which can be classified as a transition activity towards a climate neutral economy³ to achieve the objectives and commitments of the EU in the field of climate change - is in agreement with the development directions laid down at the national level for the energy sector - the *National Recovery and Resilience Plan, Pillar I Green Transition, Component C6 Energy*, aimed at reforming the electricity market by replacing coal in the energy mix.

The implementation of the combined cycle gas turbine power plant investment, the MASS Mintia CCGT, plays an important role in the NPS, by restoring the electricity balance in the centre and west of the country and by participating in the regulation of the operating parameters of the NPS. Moreover, the implementation of the investment, which represents an important point of interconnection with the UCTE Western European system, will determine the reduction of atmospheric pollutant emissions and greenhouse gas emissions, considering the supply of the objective with natural gas and the high-performance equipment of the power plant, which involve the superior use of natural gas, under advantageous economic conditions, at increased efficiencies compared to classic cycles.

³ Commission Delegated Regulation (EU) 2022/1214 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities.

The EU taxonomy stipulates that installations for electricity generation from fossil gaseous fuels can be classified as a transition activity until 2030 if they meet certain strict criteria, including the objective of direct GHG emissions related to the activity of less than 270 $\text{g CO}_{2\text{eq}}/\text{kWh}$ energy produced and switching to the exclusive use of gaseous fuels from renewable sources and/or with low carbon dioxide emissions by 31 December 2035

III.3 Investment value

The value of the investment related to the construction of the combined cycle gas turbine power plant, the MASS Mintia CCGT (without VAT) is (confidential).

III.4 Proposed period of implementation

The new combined cycle gas turbine power plant, MASS Mintia CCGT, with an installed capacity of 1770 MW, will be completed in stages, as follows:

- Open cycle with gas turbines (OCGT) until 31.12.2025;
- Combined cycle with gas turbines, heat recovery boilers and steam turbine (CCGT) until 31.12.2026.

The first stage of the investment, consisting of the commissioning of the two gas turbines and their operation in open cycle, will be completed within approximately 24 months, and the project will reach full maturity (combined cycle operation with two gas turbines, two steam recovery boilers and a steam turbine) in approximately 36 months.

III.5 Drawings showing the boundaries of the project site, including any land area necessary for temporary use

The plot on which the MASS Mintia combined cycle gas turbine power plant is to be built is owned by MASS GLOBAL ENERGY ROM S.R.L., according to the Sales Contract (Notarial Certificate 1950/27. 12.2022). The real estate property is registered in the Veșel Commune Land Register no. 63472 and in the cadastral plan extract, issued by the Hunedoara Office for Cadastre and Land Registration, the Deva Department for Cadastre and Land Registration.

There will be made the following entry for the real estate property *“disassembly, demolition, and assignment prohibitions until the date of obtaining building permits for the new facilities, and obligation to complete, until 31.12. 2026, the investment to create an energy capacity with new combined cycle, with an installed power of at least 1290 MW in gas and renewable energy band, of which 800 MW generated, in favour of S.C. CE Hunedoara S.A.”*

According to the Veșel Land Register Extract no. 63472, the land purchased by MASS GLOBAL ENERGY ROM located in Veșel Commune, Mintia Locality, Str. Șantierului, Hunedoara County – Main premises has an area of 325,101m² of industrial premises. The works for the construction of the MASS Mintia combined cycle gas turbine power plant will occupy an area of approximately 75,000 m².

For the presentation of the investments covered by this Report and their inclusion within the MASS Mintia combined cycle gas turbine power plant, there are presented the following plans:

- The Layout Plan (**Annex H**),
- The Site Plan (**Annex I**).

For this project, there was obtained the Urbanism Certificate 2/3.02.2023, presented in **Annex C**.

III.6 The physical forms of the project (plans, buildings, structures, construction materials, etc.)

The project works will be carried out within the premises of the MASS Mintia combined cycle gas turbine power plant (the location of the new energy facility).

The layout plant and, respectively, the site plan of the investment works are presented in **Annex H** and **Annex I**.

For the execution of the construction works included in this project, there was obtained the Urbanism Certificate 2 of 3.02.2023, **Annex C**.

The buildings included in the new investment to be built within the MASS Mintia combined cycle gas turbine power plant are the following:

- **Gas turbine hall**, building with reinforced concrete infrastructure and metal superstructure, in which the two gas turbines and the related electrical generators will be located;
- **Steam turbine hall**, building with reinforced concrete infrastructure and metal superstructure, in which the steam turbines and the related electrical generator will be located;
- **Electric system and control room building**, building with reinforced concrete infrastructure and masonry infill walls;
- **Heat recovery boiler room**, two buildings with reinforced concrete infrastructure and metal superstructure, in which heat recovery boilers without supplementary firing will be located;
- **Natural gas preheating and filtering station** for retaining impurities and ensuring the temperature required for natural gas at the entrance to the GT, building with reinforced concrete infrastructure and metal superstructure;
- **Compressed air station**, building with reinforced concrete infrastructure and metal superstructure;
- **Condensate conditioning station**, construction with reinforced concrete infrastructure and metal superstructure;
- **Heat recovery boiler water pump station**, building with reinforced concrete infrastructure and metal superstructure;
- **Closed circuit cooling water (CCCW) heat exchanger station**, metal construction with concrete foundation;
- **Hot water extraction station**, metal construction with concrete foundation;
- **Wastewater treatment plant**, construction with reinforced concrete infrastructure and metal superstructure;
- **Raw water filter building (Mureş River) and circulating water pump station**, metal construction, with underground concrete chambers and foundations;
- **Containerised installations**, located on concrete foundations for the natural gas receiving and compression station and the diesel generator with the related tank, respectively.

The other objects in the general plan will be technological equipment/endowments located on concrete foundations and/or underground constructions.

Table 2 shows the dimensions (width, length, and height) of the main buildings and installations within the MASS Mintia CCGT. The numbering is according to the Site Plan in **Annex I**.

Table 2 Dimensions of the main constructions and installations of the MASS Mintia CCGT

GP no.	CONSTRUCTION	Dimensions	Height
1	GT1 and GT2 gas turbine hall	22.35 m x 91.45 m	26.20 m
	GEN1 generator room	25.80 m x 19.50 m	16.20 m
	GEN2 generator room	25.80 m x 19.50 m	16.20 m
	GT1 evacuation area	15.25 m x 6.70 m	11.95 m
	GT1 evacuation area	15.25 m x 6.70 m	11.95 m
2	GT transformer (Outdoor)	15.00 m x 6.00 m	5.00 m
3	Static frequency converter and GT transformer (Outdoor)	8.00 m x 5.00 m	5.00 m
	GT transformer excitation	2.40 m x 3.80 m	3.65 m
4	GT generator switch (Outdoor)	5.60 m x 3.00 m	5.00 m
5	Electric building (Siemens)	9.80 m x 12.20 m	5.70 m
6	Wet cooling tower (Outdoor)	245.00 m x 40.00 m	12.00 m

GP no.	CONSTRUCTION	Dimensions	Height
7	Heat recovery steam generator (Outdoor)	24.00 m x 38.80 m	65.00 m
8	Bypass stack (Outdoor)	15.00 m x 15.00 m	60.00 m
9	Fan for cooling natural gas compressors (Outdoor)	24.50 m x 19.00 m	8.00 m
10	Electrical building heat recovery boiler, HRB	6.15 m x 11.45 m	6.50 m
11	Metal containers for samples and heat recovery boiler dosing	2.50 m x 12.0 m	2.90 m
12	Natural gas compressor station	31.50 m x 56.50 m	10.00 m
13	Natural gas preheating and filtering station	26.50 m x 51.50 m	10.00 m
14	Scaffold for pipes and electric cables	As per the General Plan	23.00 m
15	Steam turbine building, ST	54.0 m x 58.0 m	36.0 m
16	RB tank and drainage pumps (Outdoor)	4.70 m x 9.60 m	-5.00 m
17	ST transformer (Outdoor)	16.00 m x 9.00 m	5.00 m
18	ST transformer excitation	2.40 m x 3.80 m	3.65 m
19	GT generator switch (Outdoor)	5.60 m x 3.00 m	5.00 m
20	Compressed air station	15.50 m x 16.50 m	8.10 m
21	Neutralisation tank (Outdoor)	17.00 m x 7.00 m	-5.00 m
22	Condensate conditioning station	19.50 m x 24.80 m	13.0 m
23	Main electrical & control building	25.0 m x 50.0 m	22.00 m
24 (a)	Metal container for emergency Diesel engines (Outdoor)	12.00 m x 2.40 m	2.90 m
24 (b)	Shed for the diesel fuel tank of Diesel engines	5.40 m x 6.50 m	6.00 m
25	Supply water pumping station	13.50 m x 22.30 m	10.0 m
26	Auxiliary boiler/flue-gas stack building	19.50 m x 25.50 m	7.50/16.00 m
27	Heat exchanger station for the closed cooling water circuit	17.25 m x 22.00 m	6.00 m
28	Metal shed for the hydrogen tank	12.50 m x 26.80 m	5.00 m
	Hydrogen generation plant 1	2.50 m x 6.00 m	3.20 m
	Hydrogen generation plant 2	2.50 m x 6.00 m	3.20 m
29	Wet cooling towers building	11.50 m x 35.50 m	6.00 m
30	Hydrocarbon wastewater tank and pumps (Outdoor)	6.500 m x 6.50 m	-5.00 m
31	Chemicals wastewater tank and pumps (Outdoor)	6.500 m x 6.50 m	-5.00 m
32	Equipment chemical cleaning platform (Outdoor)	3.50 m x 3.50 m	-3.50 m
33	Water treatment plant	19.0 m x 31.00 m	10.00 m
34	Wastewater treatment plant	16.50 m x 19.50 m	10.00 m
35	Channels for pipes and cables (Outdoor)	As per the GP	1.20 m
36	Fire water tank	Diameter 16.0 m	10.0 m
37	Demineralised water tank	Diameter 20.0 m	12.5 m
38	Raw water tank	Diameter 23.0 m	14.5 m
39	Roads	According to the General Plan, width 6 m	
40	Fire water pumping station	11.80 m x 16.00 m	5.0 m
41	Raw water pumping station	8.50 m x 12.50 m	5.0 m
42	Cooling water pumping station and filters	Existing station	
43	GRP pipes for make-up water from the river	Underground route	
44	Ammonia tank of SCR1	Diameter 8.0 m	11.5 m
	Ammonia tank of SCR2	Diameter 8.0 m	11.5 m
45	High voltage underground power line	Underground route	
46	Existing TRANSGAZ metering station	Existing station	
47	Space reserved for the new TRANSGAZ metering station (14.60 m x 39.00 m)		
48	GT cooling fan (Outdoor)	23.00 m x 16.00 m	8.00 m
49	Wet cooling tower drainage wastewater treatment plant	17.00 m x 20.00 m	10.00 m
50	GRP cooling water pipes	Underground route	

GP no.	CONSTRUCTION	Dimensions	Height
51	Skid for natural gas characteristics (Siemens) (Outdoor)	8.00 m x 12.50 m	2.50 m
52	TG rotor cooling – T-Rac (Siemens) (Outdoor)	8.00 m x 7.50 m	4.00 m
53	Skid for GT fire prevention and firefighting (Siemens) (Outdoor)	10.00 m x 3.00 m	2.80 m
54	H2 cylinder container (Siemens)	3.50 m x 8.00 m	2.80 m
55	Space reserved for generator rotor replacement	Open area	
56	GT base module (Siemens)	3.60 m x 12.0 m	4.50 m
57	Electrochlorination plant	Installed in an existing building	

For car and pedestrian access to the newly designed buildings and facilities within the MASS Mintia premises, there will be made new road connections and road platforms, from the road network existing on the site of the former SE Deva industrial facility.

III.7 Specific elements, characteristic of the proposed project

III.7.1 Generation profile and capacities

The investment to be made at the site of MASS GLOBAL ENERGY ROM S.R.L., part of Mass Group Holding, consists of a combined cycle gas turbine power plant, operating on natural gas, which will produce electricity under high technical performance conditions on a site where a large coal-fired combustion plant used to operate (SE Deva, the industrial activity of which ceased on 5.03.2021, placed in conservation on 28.04.2021, and for which there were established the environmental obligations for the termination of the activity).

The highly efficient combined cycles integrate the advanced gas turbine technology and the reliable steam cycles with the latest types of multi-pressure steam turbines and heat recovery boilers.

The MASS Mintia combined cycle gas turbine power plant with an installed capacity of 1770 MW_e, equipped with two gas turbines, two steam recovery boilers and a steam turbine, will generate electricity at lower costs and significantly better efficiencies than the classic electricity generation variant.

The first stage of the investment, consisting of the commissioning of the two gas turbines and their operation in open cycle, will be completed within 24 months, and the project will reach full maturity (combined cycle operation with two gas turbines, two steam recovery boilers and a steam turbine) in 36 months.

All components of the MASS Mintia combined cycle gas turbine power plant will be prepared for the transition to new hydrogen-based energy generation technologies.

III.7.2 Description of the facility and of the technological flows

The investment consists in the construction on the site owned by MASS GLOBAL ENERGY ROM S.R.L., part of the MASS Group Holding, of a combined cycle gas turbine power plant - MASS Mintia, with an installed power of 1770 MW_e (rated thermal power 2 x 1557 MW_t), with the following configuration:

- 2 identical gas turbines, Siemens 9000 HL, with a generator unit capacity of 600 MWe;
- 2 heat recovery boilers without supplementary firing, to produce the superheated steam required for the condensing steam turbine;
- 1 condensation steam turbine, Siemens SST5-5000, with a generator unit capacity of 570 MWe.

The configuration of the new power plant provides an auxiliary steam boiler which, in cases of total shutdown, will ensure the steam required to start the units from any thermal state, the steam for the generation of thermal

energy to heat the new combined cycle power plant (the related administrative premises), as well as the steam to protect the equipment/keep the equipment warm.

The main technological flows of the MASS Mintia combined cycle gas turbine power plant are as follows.

Fuel (natural gas) – flue-gases technological flow

The gas turbines are supplied with natural gas from the new natural gas regulation-metering station. The required inlet pressure in gas turbines is ensured in the gas compressors. After reaching this pressure, the natural gas is sent to the combustion chamber of the turbine, together with the combustion air.

Natural gases enter the combustion chamber (CC) where, with the help of combustion air taken from the atmosphere through a compressor, turn into high temperature flue-gases.

These flue-gases are afterwards used as follows:

- they first enter the gas turbine (GT) rotating its blades, generating electricity by means of the generator (G); the GTs can discharge the flue-gases by means of two by-pass stacks, with a physical height of 60 m and an internal diameter at the top of 9.09 m;
- after leaving the GT, the flue-gases with a temperature of about $665.40 \div 696.90$ °C enter the heat recovery boiler (HRB) where the heat of the flue-gases heats the water turning it into steam, i.e. thermal energy;
- from RB, the flue-gases with a temperature of approximately $67.70\text{--}69.00$ °C are discharged into the atmosphere by means of two metal stacks (physical height of 65 m and internal diameter at the top of 7.19 m).

In order to reduce the NO_x emissions from the combustion gases, there will be used the secondary denoxing process - selective catalytic reduction (SCR), with ammonia.

Raw water - steam technological flow

The raw water taken from the Mureş River is first pretreated and demineralised in the facilities of the new chemical water treatment plant to reach the quality parameters requested by consumers, being sent to the heat recovery boilers (HRB) to be transformed into steam.

The steam enters the steam turbine (ST), where thermal energy is converted into rotational mechanical energy by expanding the steam and converting it into condensate in the steam condenser, with closed circuit cooling. The steam systems will be equipped with by-passes sized at maximum capacity, which allow the passage of steam to the water-cooled steam condenser. The cooling of the steam condenser requires a closed-circuit cooling water flow of about 90,000 m³/h, by means of wet cooling towers. The make-up water required, approximately 1260 m³/h (at an air temperature of 15 °C) and 1920 m³/h (at an air temperature of 39 °C) is taken from the Mureş River, using the existing river water pumping facility and the existing system of adduction channels

The electricity generated by the electrical generators related to the gas turbines and the steam turbine will be delivered to the National Power System (NPS) through Transelectrica. Part of the generated electricity will be used to cover the internal electrical services of the power plant equipment.

The voltage at the terminals of the electric generators related to the gas turbines (18.5 kV) is adapted to the connection voltage of 400 kV by means of two step-up transformers, and the voltage at the terminals of the electric generator related to the steam turbine is adapted to the 220 kV connection voltage through a dedicated transformer.

The schematic diagram of the technological flow of the MASS Mintia CCGT power plant is presented in **Annex D**.

III.7.3 Description of the generation processes of the proposed project according to the specifics of the investment, products and subproducts obtained, size, capacity

MASS Mintia is a combined cycle gas turbine power plant, operating on natural gas, which will generate approximately 1770 MWe.

The combined cycle consists of two 2 x 600 MWe gas turbines coupled with two heat recovery boilers without supplementary firing and a single steam turbine, generating 570 MWe in pure condensation.

The MASS Mintia combined cycle gas turbine power plant, which will operate 24 hours a day, 7 days a week, is designed for a service life of 30 years.

Energy resources, raw materials and chemicals are needed to ensure the operation of the new power plant.

The fuel used in the power plant by the gas turbines and the auxiliary steam boiler is gaseous fuel – natural gas, which will be supplied at the boundary of the MASS Mintia premises by TRANGAZ at a pressure of 18-43 bars and a temperature of -2 °C. In order to ensure the natural gas pressure necessary for the operation of the gas turbines, there will be provided a natural gas compressor station (3 X 100 %).

The maximum hourly fuel consumption of the new combined cycle gas turbine power plant, MASS Mintia CCGT, is 315,000 Sm³/h.

The flue-gases from gas turbines, heat recovery boilers and the auxiliary steam boiler are discharged by means of individual stacks.

The supply of water of various grades (domestic, industrial, for fires) as well as the discharge of wastewater related to the MASS Mintia combined cycle gas turbine power plant are carried out by means of similar networks existing on the platform or by means of new networks, where the situation in the field such requires.

The water requirement and the discharged quantities must observe the flowrates to be provided in the Water Management Permit.

The electricity generated by the MASS Mintia combined cycle gas turbine power plant will be sold on the energy market.

III.7.3.1 Thermomechanical installations

The energy equipment fitted in the MASS Mintia combined cycle gas turbine power plant consists of the gas turbines, the heat recovery boilers without supplementary firing and the steam turbine.

Gas turbine

Gas turbines were originally designed for aviation, but gas turbine companies made over time small changes to these turbines and adapted them for power generation purposes; such gas turbines are called “aeroderivatives”. Following the development of this technology, manufacturing companies began to produce gas turbines specifically dedicated to energy applications; such gas turbines are called “heavy-duty”.

The main technical characteristic that differentiates the two constructive types is the speed. Thus, “heavy-duty” gas turbines operate at a speed of 3000/3600 revolutions/min, and the electric generator is driven directly by the gas turbine, while “aeroderivative” gas turbines operate at much higher speeds (usually over 10000 revolutions/min), and the electric generator is driven by means of a speed reducer.

The gas turbine systems will include the following main equipment:

- the air compressor (C), used to raise the air pressure in order to feed the combustion chamber;
- the combustion chamber (CC), with low NO_x formation fuel injectors;
- the actual turbine (GT), used to transform the thermal energy of the flue-gases into mechanical work;
- the electric generator (G), used to generate electricity.

Each GT can discharge the flue-gases by means of an individual by-pass stack, with a physical height of 60 m, equipped with silencer and continuous emission monitoring system (CEMS) samplers.

GTs are provided with all auxiliary equipment, including GT air preheating pumps (2 x 100%), cooling water pumps (2 x 100% for each GT).

Heat recovery steam generators without supplementary firing

The heat recovery steam generators to be fitted in the combined cycle gas turbine power plant, MASS Mintia CCGT, are used to transfer the heat contained in the flue-gases from the gas turbines to the supply water, which turns into steam.

The heat recovery steam generators have no supplementary firing and are specially designed for the operational characteristics of gas turbines, thus ensuring maximum performance for the entire thermal cycle.

The heat recovery steam generators are supplied with demineralised water, by means of variable speed water supply pumps (4 pumps in total, of which 2 x 100% for each HRB). The steam produced in the heat recovery boilers will be of three pressure levels (low, medium, and high pressure).

In order to reduce the NO_x emissions from the combustion gases, there will be used the secondary denoxing process - selective catalytic reduction (SCR), with ammonia.

The flue-gases generated by each GT+HRB set of the MASS Mintia combined cycle gas turbine power plant will be discharged by means of two main stacks located after the heat recovery boilers, with a physical height of 65 m and an internal diameter at the top of 7.19 m.

Each main stack is equipped with silencer and Continuous Emission Monitoring System (CEMS) samplers.

The heat recovery steam generators without supplementary firing are provided with all auxiliary systems/equipment, including purge systems, systems of platforms and metal ladders to provide inspection and maintenance of valves and instruments and access to continuous emission monitoring systems samplers.

Steam turbine

The steam turbine processes the steam generated in the two heat recovery boilers, recovering the heat from the flue-gases discharged by the gas turbines.

An auxiliary steam boiler must be installed in order to start the steam turbine. The auxiliary steam boiler will operate no more than 200 hours/year. This value was estimated considering the power plant start/stop likelihood.

The steam generated in the steam turbine is taken up by the open circuit water-cooled steam condenser, which is provided with all auxiliary equipment, such as main condensate pumps (2 x 100 %), vacuum pumps (2 x 100 %), priming pumps (2 x 100%), interconnecting pipes, including the steam turbine interface, an automatic condenser pipe cleaning system.

The steam turbine is provided with all the auxiliary systems/equipment, including by-pass steam systems, condensing system with water cooled condenser, oil system.

The **auxiliary installations/systems** to be fitted to the MASS Mintia combined cycle gas turbine power plant are as follows:

- A river water filtration system with sieves and auxiliary equipment;
- Two residue filters (upstream of the River water sampling area) together with related equipment;
- Three self-cleaning filters (Bernoulli or equivalent) with related equipment;
- *Make-up water supply system*, interconnected to the existing raw water collection system (Mureş River), ensuring a make-up water flowrate of about $1325 \text{ m}^3/\text{h}$ ($t_{\text{air}} = 15^\circ\text{C}$) $\div$ $1985 \text{ m}^3/\text{h}$ ($t_{\text{air}} = 39^\circ\text{C}$), of which, make-up water flowrate for the cooling circuit of the steam turbine condenser of $1325 \text{ m}^3/\text{h}$ ($t_{\text{air}} = 15^\circ\text{C}$) $\div$ $1985 \text{ m}^3/\text{h}$ ($t_{\text{air}} = 39^\circ\text{C}$) and raw water flowrate for the water treatment plant and other services of about $65 \text{ m}^3/\text{h}$
The $90,000 \text{ m}^3/\text{h}$ cooling water flowrate for the steam turbine condenser cooling circuit is supplied by the wet cooling tower group;
- *Industrial water supply system* (flowrate of $65 \text{ m}^3/\text{h}$), interconnected to the existing raw water supply system (Mureş River), equipped with a tank with a capacity of 3500 m^3 and two pumps (2 x 100%), for the production of demineralised water necessary for the operation of the new combined cycle gas turbine power plant, MASS Mintia CCGT, for making up the water in the thermal circuit of the steam recovery boilers and for other consumption related to the new power plant. The demineralised water produced in the water demineralisation station (2 x 100 %) ensures a flowrate of $40 \text{ m}^3/\text{h}$, stored in two demineralised water vertical tanks (2 x $3,000 \text{ m}^3$), from where it is pumped to consumers by means of two pumps (2 x 100 %).
- *Drinking water supply system* (flowrate of $14 \text{ m}^3/\text{h}$), interconnected to the existing drinking water supply system, equipped with a vertical tank with a capacity of 5 m^3 and two pumps (2 x 100 %). The main consumers of drinking water within the premises of the plant are the electrochlorination plant, water used for drinking and hygiene-sanitary purposes, including showers located where hazardous substances are handled. The electrochlorination plant, for chlorinating of the main river water system, has a normal dosage level of 0.5 ppm and a maximum dosage level of 2.0 ppm;
- *Condensate conditioning installation* (2 x 100 %), including pump station (2 x 100 %).

- *Electric generator cooling installations* GT with hydrogen (2 pcs.), containerised, with a capacity of 3.0 Nm³/h, ensuring a hydrogen pressure of 0 to 15 bars; the horizontal hydrogen storage tank has the following technical characteristics: storage capacity of 120.0 m³, pressure 20.0 bar.
- *Natural gas regulation and compression station*, ensuring a required inlet pressure for gas turbines of approximately 45 bar and including a natural gas acceptance and metering station; a natural gas compression system, equipped with gas compressors (2 x 100% or 3 x 50%), including auxiliary equipment for increasing the natural gas pressure from 18 bars to 45 bars; electric starting heater for each GT; drainage tanks, if and where applicable; gas detection system; nitrogen purging system.
- *Compressed air system* (compressed process air and instrument air), including two oil-free and air-cooled centrifugal compressors (2 x 100 %), two air dryers (2 x 100 %) and 3 air tanks (3 x 8 m³).
- Containerised *sampling and chemical dosing systems* for the water-steam circuit.
- *Firefighting and fire prevention system*, interconnected to the existing raw water system (Mureş River), including fire water tanks (2 x 1800 m³) and fire water pump station (one electrically operated pump, one diesel engine operated pump, one electric motor operated “jokey” pump).
- *Installations related to constructions* (heating, ventilation, and air conditioning).

III.7.3.2 Electrical technological installations

The electrical technological installations fitted to the MASS Mintia combined cycle gas turbine power plant are as follows:

- 3 high voltage power lines (2 x 400 kV and 1 x 220 kV), located underground;
- main transformers for evacuating the electrical energy generated in the system by the gas turbines and the steam turbine (2 transformers of 400 kV for the two GTs and 1 transformer of 220 kV for the ST);
- auxiliary transformers (2 pcs.);
- auxiliary distribution transformers;
- busbars, circuit breakers (2 pcs.);
- medium/low voltage distribution installations;
- GT electrical containers, command and control cables;
- direct voltage (DC) supply systems and uninterruptible power supplies (UPC);
- lighting system;
- grounding system;
- installations for continuous monitoring of emissions (2 pcs);
- communication system;
- 2 MVA diesel generator.

III.7.4 Raw materials, energy and fuels used and the method of supplying them

The technological process for implementing the proposed project requires both raw materials and composite construction materials, such as water, gravel, earth from excavations, sand, ballast, cement. The equipment and materials necessary for performing the works related to this investment will be purchased by the contractor and will be stored until putting in place at its production base.

The contractor must ensure the electricity necessary to carry out the works from the supply points mutually agreed with the beneficiary, either by means of temporary connections from the existing networks, or by means of mobile gensets.

The fuel needed for the machinery/means of transport will be provided by the contractor, who is required to ensure a continuous flow of the works on the construction site.

III.7.5 Connection to the utility networks from the area

The works related to this investment will be carried out within the premises of the former Societatea CE Hunedoara S.A. – SE Deva, the industrial activity of which was suspended in the summer of 2021.

The beneficiary will make available to the contractor all the utilities at its disposal and will decide the connection points for each individual utility. If they cannot be provided by the beneficiary, the contractor will provide the utilities using own means.

In the ***period of performance*** of the project works, the utilities will be provided as follows:

- ***Water supply***
 - The quantities of process water required to carry out the investment works are considered low, considering the specifics of the works to be carried out on the construction site, and it will be used mainly for spraying the working areas (if applicable), in order to reduce any possible particle emissions.
 - The water will be supplied within the construction site organisation according to the specific conditions of the area where it will be located (connection to onsite sources or tanks).
 - The drinking water required for the personnel carrying out the works will be provided by the contractor, in agreement with the beneficiary, either by connection to the existing network or using plastic containers.
- ***Sewerage***
 - Domestic wastewater generated by the operating personnel will be collected in ecological toilets and will be discharged by specialised companies.
 - The technological processes or works do not generate wastewater that requires special treatment or removal conditions. The use of water for spraying the working area, if necessary, will not pose problems related to the collection and removal as wastewater.
- ***Power supply***
 - The power will be supplied, by mutual agreement with the beneficiary, either by means of temporary connections to the existing networks, or by means of mobile gensets.

In the ***period of operation*** of the project, the following utilities must be ensured:

- ***Process water***
 - The process water (make-up cooling water, water for preparing demineralised water in the chemical water treatment plant, fire water and water for other uses) will be supplied through the interconnection to the existing raw water supply system (Mureş River) from the premises of the former SE Deva industrial facility.
- ***Drinking water***

- The drinking water required by the consumers related to the power plant (the electrochlorination plant, the water used for drinking and hygienic-sanitary purposes, including showers located where hazardous substances are handled) will be supplied by interconnection to the two existing drinking water tanks located outside the premises.
- **Process wastewater**
 - The process wastewater will be discharged, after treatment within the premises of the power plant (process wastewater treatment plant, oil separator), via the similar networks existing within the premises of the former SE Deva industrial facility.
- **Domestic wastewater**
 - Domestic wastewater from the indoor toilets related to the Electric system and control room building will be directed to the new wastewater treatment plant to be fitted to the power plant from where it will be discharged into the emissary (Mureș River), by interconnecting with the existing system for the removal of wastewater from the premises of the former SE Deva industrial facility.
- **Rainwater**
 - Conventionally clean rainwater collected within the premises of the power plant (road sections, pavements, roofs of buildings as well as water from the air conditioning units and water discharges from the area of water tanks and pump stations) will be directed through a new storm sewer network into the similar network existing within the premises of the former SE Deva industrial facility.

III.7.6 Description of the works for restoring the site in the area affected by the investment

The project does not provide special works for the restoration of the site, as the area designated for the new investment is located within the premises of the former Societatea CE Hunedoara S.A. – SE Deva, a plot of land that has served as the site of an industrial facility.

The works to be carried out upon the completion of the investment works are those of decommissioning the construction site organisation by the contractor and of clearing its site so as to restore its previous functions.

Moreover, the spaces set up for the temporary storage of non-hazardous waste, for the recovery thereof, will have to be cleared and restored, returning them to their previous use.

III.7.7 New access ways or the restoration of existing ones

The new combined cycle gas turbine power plant, MASS Mintia CCGT, will be accessed by road from DN7, on the internal roads within the premises.

For car and pedestrian access to the newly designed buildings and facilities within the MASS Mintia CCGT premises, there will be made new road connections and road platforms, from the road network existing on the site of the former SE Deva industrial facility.

III.7.8 Natural resources used for construction and operation

During the works for the construction of the new MASS Mintia combined cycle gas turbine power plant, there will also be used natural resources, specific to the construction activity, as follows:

- aggregates (soil, gravel, ballast, sand);
- process water used for the construction site organisation, to be ensured by the contractor by connecting to similar networks existing within the site, as mutually agreed with the beneficiary of the works.

According to the actual conditions of the area, the water can be supplied by the contractor from external sources (connection to other networks in the area, tanks). The quantities required for the period of execution of the works will be reduced considering the specifics of the works.

During the operation of the combined cycle gas turbine power plant, MASS Mintia CCGT, there will be used the following natural resources:

- water that will be provided, according to the uses thereof, as follows: from the existing system for water supply from the Mureş River (for the steam turbine condenser cooling circuit, the chemical water treatment plant, and the fire water) and from the existing system for drinking water supply (existing tanks, 2 x 300 m³, located outside the power plant premises);
- natural gas that will be provided by SNGTN TRANSGAZ S.A. Mediaş, by means of a regulation-metering-handover station (SRMP). The natural gas transmission pipeline for supplying CET Mintia, with a length of about 56 km, declared *project of national importance in the field of natural gas* by GD 129/2023, is an investment objective which will be included in the Modernisation and Development Programme of SNGTN Transgaz S.A. Mediaş and will be financed from the company's own sources.

The maximum hourly fuel consumption of the new combined cycle gas turbine power plant, MASS Mintia, is 315,000 Sm³/h.

III.7.9 Methods used in the construction works

The methods applied for the execution of the proposed works related to this investment will observe the legal requirements in force and will comply with the tender books drawn up for this project. There will be established by mutual agreement with the beneficiary the locations for construction site organisation and the areas proposed for the storage of materials.

The methods used for carrying out the investment do not require special techniques. The construction-assembly activities will be carried out by specialty (types of equipment and installations).

The construction-assembly works to be carried out are also ordinary works that were also performed at the time of the construction of the existing stage.

III.7.10 The execution plan, including the phase of construction, commissioning, operation, restoration, and subsequent use

The programme of works, detailed work schedules and the acceptance deadlines must be correlated with the general construction schedule.

The programme of works will be drawn up by the contractor together with the beneficiary, considering the order and priorities for carrying out the works.

The period for the completion of the construction-assembly works related to the new combined cycle gas turbine power plant, MASS Mintia CCGT, is 36 months and its operational life is of 30 years.

III.7.11 Relationship with other existing or planned projects

The new combined cycle gas turbine power plant, MASS Mintia CCGT, will be built on an existing industrial site where Societatea CE Hunedoara S.A. – SE Deva carried out its activity (its activity stopped as of 5.03.2021). By Letter 10200/AAA/07.03.2022, APM Hunedoara established the Environmental Obligations for the cessation of activity and the sale of assets at the Sucursala Electrocentrale Deva⁴.

This investment will contribute to the achievement of the national strategic objectives relating to the energy security, sustainable development, and increased competitiveness, observing the national and Community environmental legislation.

According to the information available on the ANPM AtlasExplorer portal⁵, for the reporting year 2022, in the area where the proposed project is located, the sources of industrial emissions (industrial complexes, IPPC installations) fall in the category *Mineral industry* (Chișcădaga Cement Factory; S.C. Carmeuse Holding S.R.L.), the category *Intensive breeding of poultry and pigs* (S.C. Avis Collection S.R.L.; S.C. Chick S.R.L. Ferma 1; S.C. Chick S.R.L. Ferma 7, Balata; S.C. Chick S.R.L. Ferma 9 Balata; S.C. Alis Prod Impex S.A.), the category *Production and processing of metals* (S.C. Arcelomittal Hunedoara S.A.), the category *Treatment of metal and plastic surfaces* (S.C. DEMGY Deva S.A.) and the category *Basic plastics* (S.C. DAR Draexlmaier Automotive S.R.L.).

For the implementation of the combined cycle gas turbine power plant, MASS Mintia CCGT, in addition to the investment covered by this Presentation Report, the following projects are planned:

- The project “*Demolition of buildings on the proposed site and construction of the “MASS Mintia” Power Plant, in Mintia Village, Veșel Commune, Hunedoara County*” - The stage of demolition of buildings on the proposed site; according to the Screening Stage Decision 1202/22.05.2023, the project is not subject to environmental impact assessment, to adequate assessment and to water body impact assessment⁶;
- The investment project „*Natural gas transmission pipeline for supplying CET Mintia*”, declared project of national importance in the field of natural gas by GD 129/2023, will be included in the Modernisation and Development Programmes of SNGTN Transgaz S.A. Mediaș and will be financed from the company's own sources.

The combined cycle gas turbine power plant, MASS Mintia CCGT, construction project does not technically/technologically interfere with existing activities; however, it will be assessed at a later stage of the environmental impact assessment procedure in terms of the environmental impact and the cumulative impact of the project with existing or planned projects.

⁴ The Management Report for the 2021 financial year,
http://www.cenhd.ro/images/File/Situatii%20financiare/2021/Raport_administratori_CEH_2021.pdf

⁵ <http://atlas.anpm.ro/atlas#>

⁶ http://www.anpm.ro/web/apm-hunedoara/decizii-etapa-de-incadrare/-/asset_publisher/iwG3xCtPIBjo/content/decizii-finale-etapa-de-incadrare-202?_101_INSTANCE_iwG3xCtPIBjo_redirect=http%3A%2F%2Fwww.anpm.ro%2Fweb%2Fapm-hunedoara%2Fdecizii-etapa-de-incadrare%3Fp_id%3D101_INSTANCE_iwG3xCtPIBjo%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D1&redirect=http%3A%2F%2Fwww.anpm.ro%2Fweb%2Fapm-hunedoara%2Fdecizii-etapa-de-incadrare%3Fp_id%3D101_INSTANCE_iwG3xCtPIBjo%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D1

III.7.12 Alternatives considered

- *Alternative 0 - “No project”*

The variant of not making the investment (Alternative 0) involves maintaining the current use of the land, “constructions and yards” according to the Urbanism Certificate 2/03.02.2023 issued by the Vețel Commune Hall, with negative implications on the balancing and regulation of the operating parameters related to the National Power System and, respectively, the interconnection with the Western European UCTE system.

Moreover, not making the investment implies the loss of opportunities to create new jobs and obtain additional sources of income for the local/national budget.

Having regard to the fact that the current location is not of high environmental value, the choice of alternative “0” cannot contribute to the improvement of the quality of the environment in the analysed area or to the improvement of socio-economic conditions.

- *Alternatives analysed*

According to the *Romania's Energy Strategy 2019–2030 with the perspective of 2050*, the SE Deva coal-fired units, with the exception of unit 3, will be withdrawn, with very little prospect of being restarted.

As of 5.03.2021, the activity of the Sucursala Electrocentrale Deva was ceased and on 28.04.2021 the industrial facility was placed in conservation, in the absence of the necessary investments to be able to comply with the environmental provisions of the European Union. By Letter 10200/AAA/07.03.2022, APM Hunedoara established the Environmental Obligations for the cessation of activity and the sale of assets at the Sucursala Electrocentrale Deva⁷.

MASS GLOBAL ENERGY ROM S.R.L., part of the Mass Group Holding, was successful in the procedure for the sale and selection of an investor for SE Deva, within CE Hunedoara.

Therefore, for this project, there were not considered alternative sites on other nearby plots, considering the accessibility to the existing infrastructures in the area (e.g. water supply, sewage removal, access roads, etc.).

With respect to the technological alternatives, in observance with the *Commission Delegated Regulation (EU) 2022/1214 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities*, there was chosen for this investment the implementation of an economic activity of **natural gas-based electricity generation**, which can be classified as a transition activity⁸ towards a climate neutral economy to achieve the objectives and commitments of the EU in the field of climate change.

Furthermore, the technological alternative for the fitment of this investment observes the development directions established at the national level for the energy sector - the *National Recovery and Resilience Plan, Pillar I Green Transition, Component C6 Energy*, aiming to reform the electricity market by replacing coal in the energy mix.

⁷ The Management Report for the 2021 financial year,
http://www.cenhd.ro/images/File/Situatii%20financiare/2021/Raport_administratori_CEH_2021.pdf

⁸ The EU taxonomy stipulates that installations for electricity generation from fossil gaseous fuels can be classified as a transition activity until 2030 if they meet certain strict criteria, including the objective of direct GHG emissions related to the activity of less than 270 g CO_{2eq}/kWh energy produced and switching to the exclusive use of gaseous fuels from renewable sources and/or with low carbon dioxide emissions by 31 December 2035

Therefore, for this investment, there was chosen a combined cycle gas turbine power plant, fitted with two natural gas turbines, two recovery boilers and a steam turbine, involving the superior use of natural gas, under advantageous economic conditions, at increased efficiencies compared to classic cycles.

The MASS Mintia Power Plant equipment solution complies with *Law 278/2013 on industrial emissions* and the Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants relating to energy efficiency and BAT-associated emission levels for combined cycle gas turbines and open cycle gas turbines.

III.7.13 Other authorisations required for the project

In order to carry out the works related to this project, the holder of the investment obtained the Urbanism Certificate no. 2/3.02.2023 issued by the Vețel Commune Hall (**Annex C**), indicating the agreements/endorsements necessary in order to obtain the building permit for the power plant, as follows:

- With respect to urban utilities and infrastructure (water supply, power supply, natural gas supply by Transgaz;
- The Hunedoara County Department for Culture;
- Fire prevention and firefighting,
- Civil protection;
- Public health;
- Hunedoara County Construction Inspectorate;
- General Staff, Ministry of National Defence;
- Special Telecommunications Services.



IV. DESCRIPTION OF THE DEMOLITION WORKS

This project does not include any demolition works, as they are covered by another project ***“Demolition of buildings on the proposed site and construction of the MASS Mintia Power Plant, in Mintia Village, Veşel Commune, Hunedoara County - The stage of demolition of buildings on the proposed site”*** which, according to the Screening Stage Decision 1202/22.05.2023, *is not subject to environmental impact assessment, to adequate assessment and to water body impact assessment.*

IV.1 The plan for the execution of works of demolition, restoration, and subsequent use of the land

Not applicable.

IV.2 Description of site restoration works

Not applicable.

IV.3 New access ways or changes to existing ones, as applicable

Not applicable.

IV.4 Methods used in the demolition works

Not applicable.

IV.5 Details of the alternatives that were considered

Not applicable.

IV.6 Other activities that may occur as a result of demolition (e.g. waste disposal)

Not applicable.

V. DESCRIPTION OF THE PROJECT SITE

The combined cycle gas turbine power plant, MASS Mintia CCGT, will be located within the premises of the former Societatea CE Hunedoara S.A. - SE Deva, on the left bank of the Mureş River, downstream of Mintia, to the NW of Deva, at about 9 km. The premises of the plant run parallel to DN 7, the current Deva-Arad railway (in the km 483÷480.2 area) and the Mureş River⁹.

SE Deva is neighboured as follows:

- **to the North:** industrial area (Mining Preparation and Asphalt Station) and forest: DN 7 Deva-Arad, the Mureş River, and the road construction company S. STRABAG S.A.).
- **to the South:** forest and agricultural land;
- **to the South-West:** S.C. Messer Energo Gaz S.R.L. Deva – Mintia;
- **to the West:** residential area (Veşel Commune), agricultural land and industrial area (place of business of the FCC-Astaldi-Convensa Association, S.C. Energomontaj S.A. Deva, S.C. Energoconstrucția S.A. Deva);
- **to the East:** agricultural land and the 220/110/400 KV transformer station of CN Transelectrica S.A., Sucursala de Transport Timișoara, Mintia.

The SE Deva site spreads over a total land area of 340.58 ha, of which:

- premises, current area of 42.72 ha;
- the Mureş slag-ash storage facility, area of 58.89 ha (closed on 31 December 2006, according to GD 349/2005);
- the Bejan slag-ash storage facility (in operation), current area of 142 ha;
- new Mureş right bank storage facility (thick sludge), area of 45.79 ha;
- plot located outside the premises, area of 3.9249 ha (water cooling towers, sieve housing, equipment central warehouse).

The MASS Mintia combined cycle gas turbine power plant will be located in the south-eastern part of the premises of the SE Deva site, after the execution of the demolition/decommissioning works¹⁰, which will take place in order to place the new technological equipment. The demolition/decommissioning works are covered by a separate project for which the Screening Decision 1202/22.05.2023 was obtained.

The site of the investment works related to this project is presented in the following figure.

⁹ 2019 Annual Environmental Report for Societatea CE Hunedoara S.A. – Sucursala Electrocentrale Deva

¹⁰ Demolition/decommissioning works: locomotive shed, special purpose warehouse, make-up water treatment room, fuel oil station, fire station, training room, crushing 1, coal drainage pump station, fire station outbuilding, lubricant warehouse, oil storage, acetylene unit, fuel room, salt warehouse, composite body building, fuel repair workshop, condensate tanks, boiler repair store, above ground tanks, concrete platforms, transport lane scaffolding, roads and concrete road platforms, protective pavements, underground fuel oil tanks, pipe scaffolding, coal storage pits, normal gauge industrial railway, underground sewage networks (in the demolition area), underground electrical networks, Bagger pipeline networks, ash-slag transport networks, heating agent transmission networks, water networks (in the demolition area), water neutralisation tanks, fuel silo.

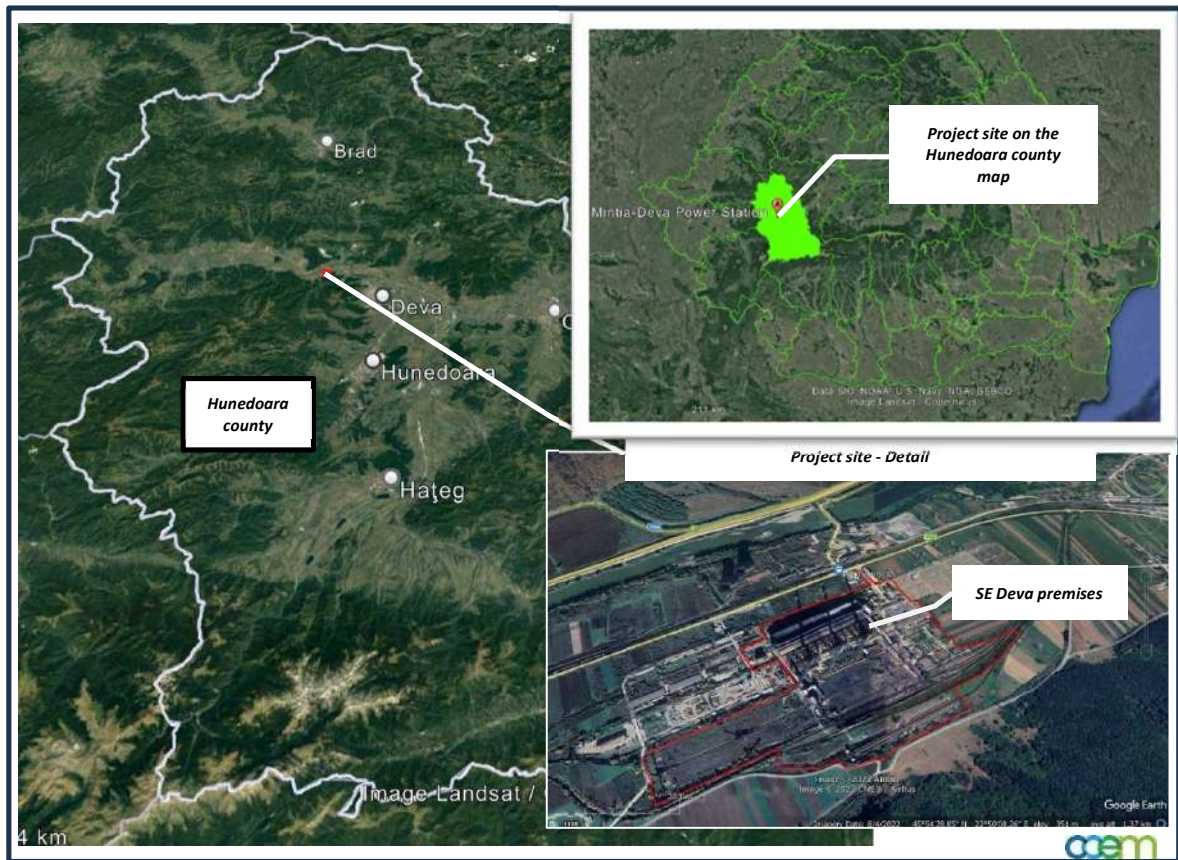


Figure 1 The site of the investment works at national, county, and local level

The new owner, MASS GLOBAL ENERGY ROM, purchased under a Sales Contract (Notarial Certificate 1950/27.12.2022) an area of 325,101 m² according to the Vețel Land Register extract no. 63472, within the built-up area, in Mintia, Str. Șantierului, Hunedoara County – Main premises.

According to the Cadastral Plan Extract from the Land Register for the Real Estate Property with the cadastral number 62472/the Territorial Administrative Unit Vețel, the area determined in the Stereo 70 projection plan is 325,101 m² of industrial premises, on which there will be performed the works for the construction of a new natural gas power plant, which will occupy an area of approximately 75,000 m².

There will be made the following entry for the real estate property *“disassembly, demolition, and assignment prohibitions until the date of obtaining building permits for the new facilities, and obligation to complete, until 31.12. 2026, the investment to create an energy capacity with new combined cycle, with an installed power of at least 1290 MW in gas and renewable energy band, of which 800 MW generated, in favour of S.C. CE Hunedoara S.A.”*

The geographical positioning of the future MASS Mintia combined cycle gas turbine power plant is presented in the Layout Plan, **Annex H**.

For car and pedestrian access to the newly designed buildings and facilities within the MASS Mintia Power Plant premises, there will be made new road connections and road platforms, from the road network existing on the site of the former SE Deva industrial facility.

V.1 Distance from borders for projects falling under the scope of the Convention on environmental impact assessment in a transboundary context

The investment works for the new MASS Mintia combined cycle gas turbine power plant are located approximately 170 km from the Hungarian border and approximately 130 km from the Serbian border.

The project is under Annex no. I to the *Convention on environmental impact assessment in a transboundary context*, adopted in Espoo on February 25, 1991, ratified by Law no. 22/2001 at point:

a) Thermoelectric power plants and combustion installations with a nominal thermal power greater than 300 MWt.

Given that the electricity production technology comply within the provisions of Decision EU/ 2326/2021 – BAT conclusions on large combustion plants, the recommended measures to reduce emissions will be implemented and the distances of the site from the borders, we can consider that the construction and the operation of the future gas-fired power plant will have an insignificant impact on neighbouring countries.

V.2 The location of the site in relation to the cultural heritage according to the List of Historic Monuments, updated, approved by the Order of the Minister of Culture and Cults 2.314/2004, as amended, and the National Archaeological Repository provided by the Government Ordinance 43/2000 on the protection of the archaeological heritage and the declaration of certain archaeological sites as areas of national interest, republished, as amended and supplemented

As regards the site of the investment objective in relation to the cultural heritage according to the List of Historic Monuments, updated, approved by the *Order of the Minister of Culture and Cults 2.314/2004, as amended, and the National Archaeological Repository provided by the Government Ordinance 43/2000 on the protection of the archaeological heritage and the declaration of certain archaeological sites as areas of national interest, republished, as amended and supplemented*, there can be noted the following Historic Monuments¹¹, located near the investment works related to the MASS Mintia combined cycle gas turbine power plant:

- *The Roman tomb from Mintia*, road type, communication line category and the Reformed Church from Mindia, religious edifice type, cult structure category;
- *The Neolithic settlement from Mintia – Gerhat*, settlement type, residential category, located next to the road crossing built to cross the industrial railway serving the thermal power plant from the locality;
- *The Roman settlement from Mintia - Acetylene Factory*, settlement type, residential category, located at the foot of the Poiana Ruscă Mountains, on the left bank of Mureş, at approximately 10 km west of Deva, near the Micia military vicus;
- *The archaeological site from Veşel - Micia (code HD-I-s-A-03214)*, civil settlement & military settlement type, residential category, located on the southern bank of the Mureş River, next to the Mintia thermal power plant, along the E68/E673 road and the railway to Deva.

The figure below shows the location of the site in relation to the previously mentioned monuments.

¹¹ The Cartographic Server for the National Cultural Heritage, <http://map.cimec.ro/Mapserver/index.html>



Figure 2 The site of the investment works in relation to the immovable national cultural heritage

Source: Cartographic Server for the National Cultural Heritage, <https://map.cimec.ro>

The real estate property (land and buildings), owned by MASS GLOBAL ENERGY ROM S.R.L., is located in the Micia-Vețel archaeological site, included in the 2015 List of Historic Monuments (code HD-I-s-A-03214).

V.3 Maps, photographs of the site that may provide information on the physical features of the environment, both natural and man-made, and other information

The premises of the site of the former Societatea CE Hunedoara S.A. – SE Deva, where the works related to the investment will be carried out, are located on the left bank of the Mureș River, downstream of Mintia, in the NW of Deva, at about 9 km, being neighboured as follows:

- to the North: industrial area (Mining Preparation and Asphalt Station) and forest: DN 7 Deva-Arad, the Mureș River, and the road construction company S. STRABAG S.A.);
- to the South: forest and agricultural land;
- to the South-West: S.C. Messer Energo Gaz S.R.L. Deva – Mintia;
- to the West: residential area (Vețel Commune), agricultural land and industrial area (place of business of the FCC-Astaldi-Convensa Association, S.C. Energomontaj S.A. Deva, S.C. Energoconstrucția S.A. Deva);
- to the East: agricultural land and the 220/110/400 KV transformer station of CN Transelectrica S.A., Sucursala de Transport Timișoara, Mintia.

The new owner, MASS GLOBAL ENERGY ROM, purchased under a Sales Contract (Notarial Certificate 1950/27. 12.2022) an area of 325,101 m² according to the Vețel Land Register extract no. 63472, within the built-up area, in Mintia, Str. Șantierului, Hunedoara County – Main premises.

According to the Cadastral Plan Extract from the Land Register for the Real Estate Property with the cadastral number 62472/the Territorial Administrative Unit Vețel, the area determined in the Stereo 70 projection plan is

325,101 m² of industrial premises, on which there will be performed the works for the construction of a new combined cycle natural gas power plant, which will occupy an area of approximately 75,000 m².

The site of the premises of the former Societatea CE Hunedoara S.A. – SE Deva where the works related to this investment will be carried out is shown in the following figure, and the location of the objects equipping the new combined cycle gas turbine power plant, MASS Mintia CCGT, is shown in **Annex F**.

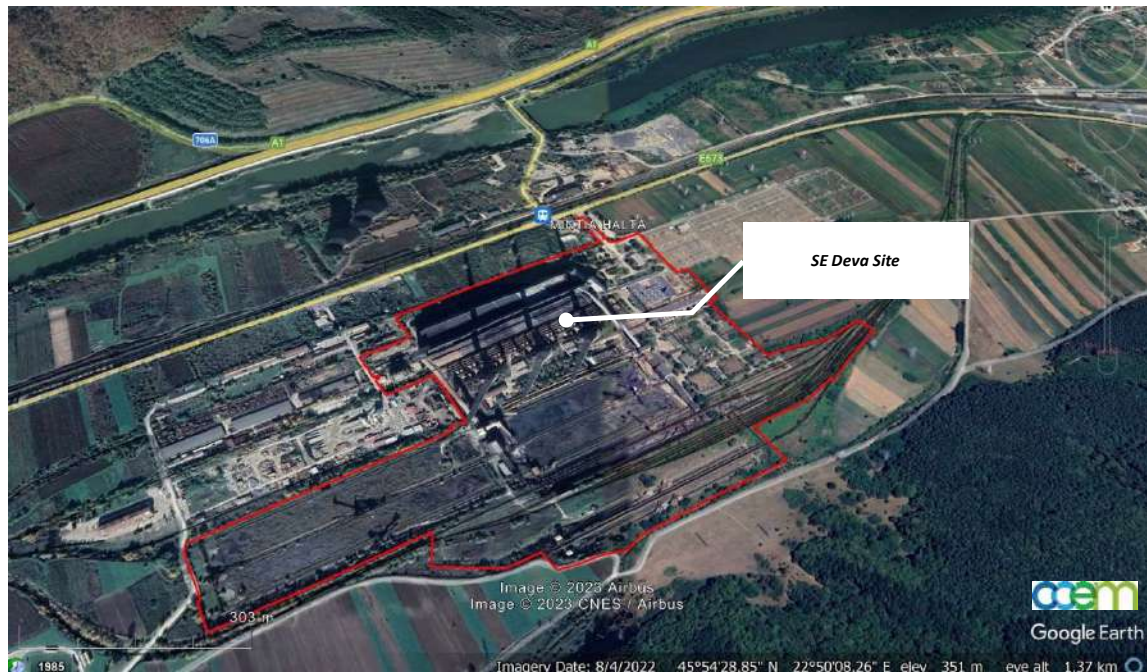


Figure 3 The site of the investment works

V.3.1 Current and planned uses of the land both on the site and in its adjacent areas

According to the Urbanism Certificate 2/3.02.2023, for the works to be carried out in the MASS Mintia combined cycle gas turbine power plant, the current use of the land is CONSTRUCTIONS AND YARDS and the use of the land according to the General Urbanism Plan is "Industrial units and warehouses area".

V.3.2. Zoning and land use policies

At the time of drawing up the project, there are no land zoning and subsequent use policies covered by the project.

V.3.3. Sensitive areas

The works related to the investment will be carried out within the premises of an existing industrial site where Societatea CE Hunedoara S.A. - SE Deva carried out its activity, with the “constructions and yards” current use of the land and the “industrial units and warehouses area” use established by the General Urbanism Plan.

The analysed site is not in the vicinity of any avifaunistic protection area or of any protection area declared at national level and it is located approximately 850 m from the site of community interest *ROSCI0373 Mureş River between Brănişca and Ilia*.

The site of the project works in relation to the sites of community importance belonging to the Natura 2000 Network is presented in the following figure.

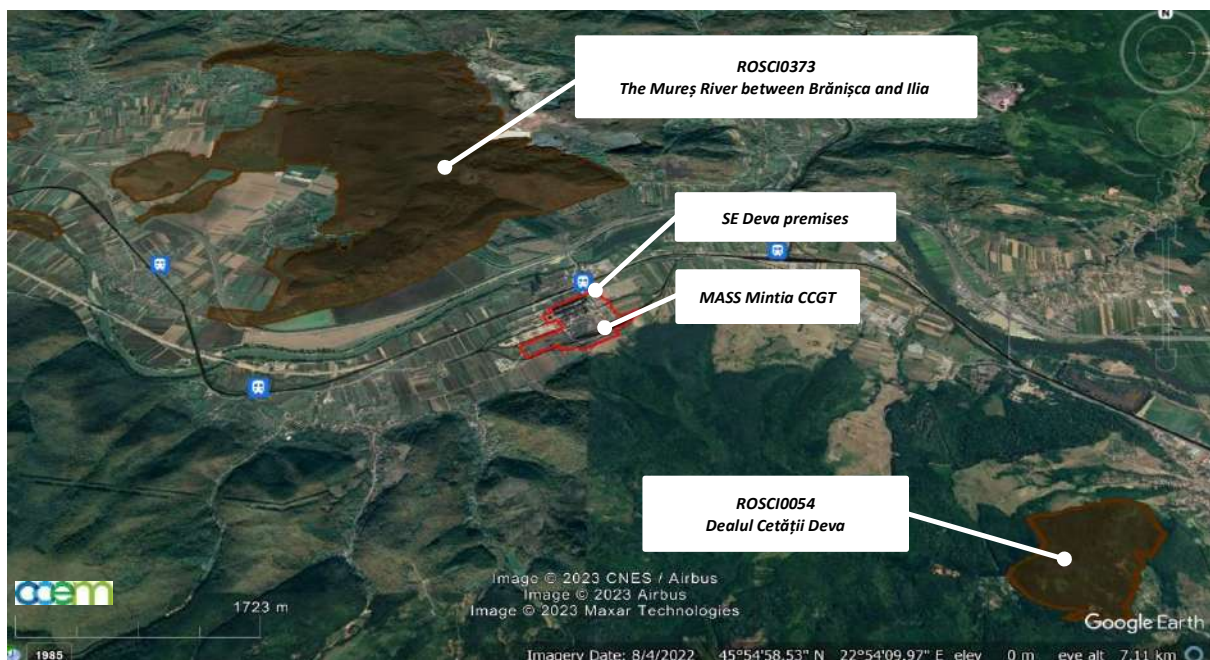


Figure 4 The site of the investment works in relation to the Natura 2000 Network (ROSCI sites)

In accordance with the *Initial Assessment Stage Decision 1202/16.02.2023 (Annex A)*, the project does not fall under the provisions of Article 28 of the Government Emergency Ordinance 57/2007 on the regime of natural protected areas, the conservation of natural habitats, wild flora, and fauna, approved as amended and supplemented by Law 49/2011, as amended and supplemented.

With respect to the impact on populated areas, please note that the investment works are carried out within the premises of the former Societatea CE Hunedoara S.A. - SE Deva (“constructions and yards” current use of the land and “industrial units and warehouses area” use established by the General Urbanism Plan); the nearest settlements are about 700 m to the west-north-west, part of the Veşel Commune, and about 700 m to the south-southwest, part of the Herepeia Village.

The figure below shows the site of the investment works in relation to the inhabited areas.



Figure 5 The site of the investment works in relation to inhabited areas

V.4 The geographical coordinates of the project site, to be presented in the form of a vector in digital format with geographical reference, in the Stereo 1970 national projection system

The coordinates of the relevant points of the site of the new MASS Mintia CCGT power plant marked on the Site Plan presented in **Annex G** are shown in the following table.

Table 3 The geographical coordinates of the MASS Mintia CCGT site

COORDINATE INVENTORY LAND BOUNDARY MASS Mintia CCGT				
No. Point	Stereo 1970 system		WGS 84 system	
	Coordinate (X)	Coordinate (Y)	Coordinate (N)	Coordinate (E)
P1	331263.4207	492564.3865	45°54'42.55"N	22°49'20.57"E
P2	331341.0644	492428.9808	45°54'39.05"N	22°49'26.31"E
P3	331552.6667	492549.1564	45°54'43.13"N	22°49'35.97"E
P4	331508.0138	492630.4602	45°54'45.73"N	22°49'33.81"E
P5	331804.2692	492796.5882	45°54'51.37"N	22°49'47.32"E
P6	331922.4277	492589.6846	45°54'44.71"N	22°49'53.07"E
P7	331761.6414	492500.8129	45°54'41.76"N	22°49'45.37"E
P8	331749.2765	492523.037	45°54'42.45"N	22°49'45.13"E
P9	331353.5946	492302.6834	45°54'34.99"N	22°49'27.05"E
P10	331220.1352	492540.0492	45°54'43.38"N	22°49'22.54"E



V.5 Details of any site variant considered

For this investment, there were considered no alternative options for the site of the combined cycle gas turbine power plant, MASS Mintia CCGT.

VI. DESCRIPTION OF ALL POSSIBLE MATERIAL EFFECTS ON THE ENVIRONMENT OF THE PROJECT

The project works generate a potential impact on environmental factors which is limited in time and space during the construction-assembly works, as well as permanently during the operation of the combined cycle gas turbine power plant, MASS Mintia CCGT.

In order to minimise the potential impact on the environment, the works will be coordinated by the contractor so as to observe the regulations in force relating to the activities carried out on the site.

Furthermore, the work schedule will have to be drawn up so that the works to be carried out on the field are not performed under unfavourable weather conditions, which increase the likelihood of a possible impact on the environment, and which may even affect the quality of the works.

VI. A Sources of pollutants and installations for the containment, discharge, and dispersion of pollutants in the environment

In the following, there will be briefly presented the method for protecting the environmental factors in the construction-assembly phase and in the operation phase of the new MASS Mintia combined cycle gas turbine power plant.

VI.A.1 Water quality protection***Construction phase***

The sources of water pollution are the construction site organisation works performed for the execution of the works, the actual construction-assembly works for the new MASS Mintia combined cycle gas turbine power plant, any accidental losses of materials, fuels/lubricants, the faulty waste management.

For the construction site organisation, there will be used shack-type containers equipped with sanitary facilities, and the contractor will establish their location together with the beneficiary. The domestic wastewater from the sanitary facilities will be discharged by specialised companies.

The drinking water required for the personnel performing the construction-assembly works will be provided by the contractor, using, according to current practice, off-the-shelf plastic containers.

Process water will be used in small quantities, only if needed, for spraying the working area (to avoid pollution of the area with particles), for cleaning the work areas. It will be supplied either by the sources existing within the site, or from the contractor's own sources (tanks).

During the performance of the works, there are no technological processes or works generating wastewater requiring special treatment or discharge conditions. The use of water for spraying the working area, if necessary, will not pose problems related to the collection and removal as wastewater.

The contractor will monitor the progress of all construction-assembly works in such a way as to prevent any accidental contamination of the area as a result of accidental leaks of fuels or lubricants from the equipment/machinery used for the execution of the works. The water table pollution is thus prevented. In the event of accidental pollution, there will be taken immediate actions using absorbent/neutralising substances, and any breakdowns of the means of transport and/or machinery will be repaired only in specialised service units.

Furthermore, the work schedule will have to be drawn up so that the works to be carried out on the field are not performed under unfavourable weather conditions, which increase the likelihood of a possible impact on the environment, and which may even affect the quality of the works.

To reduce the impact on the water environmental factor, there is recommended as follows:

- to prohibit the washing of cars or machinery in the surface waters from the work area;
- to prohibit the discharge of waste into water,
- to set up organised warehouses for technological waste and household waste;
- to strictly comply with the waste management system;
- to train the personnel involved in the works with respect to the need to protect the condition of water bodies.

Operating phase

Water supply

Process water supply

The new combined cycle gas turbine power plant, MASS Mintia CCGT, will be supplied with raw water from the Mureş River.

Process water for power plant operation is used as make-up water for the closed cooling water circuit, for the preparation of demineralised water in the chemical water treatment plant and for other uses.

For the *closed cooling water circuit* with wet cooling towers, there is required a make-up water flowrate varying according to the ambient air temperature between 1260 m³/h ($t_{air}=15\text{ }^{\circ}\text{C}$) and 1920 m³/h ($t_{air}=39\text{ }^{\circ}\text{C}$).

The cooling water flowrate for the steam turbine condenser cooling circuit is of approximately 90,000 m³/h.

For the generation of demineralised water used as make-up water in the thermal circuit of steam recovery boilers, there is necessary a flowrate of about 63 m³/h and of about 2 m³/h for other consumption of the power plant. These 65 m³/h flowrates will be taken from the Mureş River.

The raw water is stored in a new tank with a capacity of 3500 m³ and it will be pumped (2 x 100 %) to the water demineralisation station (2 x 100 %) which ensures a flowrate of 40 m³/h. The demineralised water produced in the water demineralisation station is stored in two vertical demineralised water tanks (2 x 3,000 m³), from where it is pumped to the consumers of the power plant (2 x 100 %).

The drinking water required for consumers related to the combined cycle gas turbine power plant, MASS Mintia CCGT (water used for the electrochlorination plant, the water used for drinking and hygienic-sanitary purposes, including showers located where hazardous substances are handled) will be supplied by means of two existing drinking water tanks (2 x 300 m³) located outside the premises. The drinking water will be supplied within the MASS Mintia gravimetrically, through a DN 200 pipe.

The maximum drinking water consumption related to the power plant is 14.0 m³/h (13 m³/h for the electrochlorination plant and 1.0 m³/h for the plant personnel).

In order to supply the necessary drinking water, a 5 m³ drinking water tank will be located within the premises of MASS Mintia, from which the consumers of the power plant will be supplied by means of a drinking water pump station (2 x 100 %).

Fire water supply, interconnected to the existing raw water supply system (Mureş River), will be provided from a 1500 m³ fire water tank, by means of two auxiliary pumps (2 x 100 %).

The water balance related to the operation of the MASS Mintia CCGT is presented in Annex E1 for $t_{air}=15\text{ }^{\circ}\text{C}$, respectively in Annex E2 for $t_{air}=39\text{ }^{\circ}\text{C}$

The parameters necessary for the supply of the different categories of water required must meet the parameters approved and authorised by the Water Management Authority.

Wastewater discharge

The main categories of discharged wastewater related to the combined cycle gas turbine power plant, MASS Mintia CCGT, are process wastewater, household wastewater and rainwater.

Process wastewater

Process wastewater (chemical) discharged from the chemical water treatment plant, the electrochlorination plant, the auxiliary steam boiler, the GT and ST cooling systems, the GT air preheating system, the condensate purification plant, the heat recovery boiler purge, the natural gas reception station, the chemical reagent dosing system, will be collected by means of a new sewage network located underground and directed gravitationally to a wastewater tank. The final point of the impure wastewater pumped from this tank using submersible pumps (2 x 100%) is the process wastewater treatment facility, which ensures compliance with the quality indicators imposed for the discharge of wastewater from the power plant premises.

From the technological/chemical wastewater treatment plant, the treated wastewater will be sent to the network connected to the similar existing network of the SE Deva premises.

The process (chemical) wastewater schematic diagram is presented in **Annex F3**.

The *oil-contaminated wastewater* from the areas related to GT and the natural gas compressors are directed to an oil separator which also takes all the oil spills collected by gravity from the area related to ST in a dedicated tank, equipped with submersible pumps (2 x 100%).

The oil collected in the oil separator tank is removed from the site by authorised companies and the oil-free wastewater is directed to the wastewater chemical treatment plant, from where it is pumped out (2 x 100%) from the power plant premises through the similar network existing on the site of the former SE Deva industrial facility.

The oil-contaminated wastewater schematic diagram is presented in **Annex F2**.

Domestic wastewater

The household wastewater from the indoor toilets from the *Electric system and control room* building will be discharged to the new wastewater treatment plant fitted to the new power plant.

From the *administrative building*, the wastewater generated by the personnel (about 100 people) will be discharged to the domestic water treatment plant and then to the existing discharge network of SE Deva - main manifold of DN300 concrete pipes and secondary branches of DN200 concrete pipes connected to two Imhoff decanters (mechanical purification) and discharged into the Mureş River.

The household wastewater from the *Gate* building toilets will be discharged to a dischargeable tank to be periodically emptied by authorised local companies.

The household wastewater schematic diagram is presented in **Annex F1**.

Rainwater

Conventionally clean rainwater collected within the premises of the MASS Mintia CCGT power plant, from road sections, pavements, roofs of buildings as well as water from the air conditioning units and water discharges from the area of water tanks and pump stations (demineralised water, drinking water and process water) will be directed through a new storm sewer network into the similar network existing within the premises of the former SE Deva industrial facility.

If necessary, a rainwater collection tank will be provided within the premises of the MASS Mintia CCGT, from where the rainwater will be discharged by gravity or by pumping (2 x 100%) to the similar network existing within the SE Deva premises.

The rainwater schematic diagram is presented in **Annex F4**.

The quality indicators for the wastewater discharged from the premises of the combined cycle gas turbine power plant, MASS Mintia CCGT, will comply with the admissible limit provided in the NTPA – 001/2002 Regulation on establishing the pollutant loading limits of industrial and urban wastewater when discharged into natural receivers (GD 188/2002, as amended and supplemented).

VI.A.2 Air protection

Construction phase

The emission sources related to the construction-assembly stage are mobile (road means of transport and non-road equipment and machinery) and diffuse (construction site organisation, work areas).

Thus, air quality can be affected by dust emissions from the work execution area (mainly from site preparation operations and the execution of construction works), from transport routes or as a result of repeated loading/unloading of materials existing on the site and by the emissions of polluting substances related to the operation of means of transport and technological machinery.

The machinery used for the execution of construction site works will be equipped with high-performance engines (EURO 4/5 or EURO 6) and will travel at low speed. Thus, the emissions generated by the machinery involved in the construction site activity, as well as by the means of transport, will be reduced. The existing roads will be used for the construction-assembly works.

In order to prevent the generation of dust, the contractor will have to consider the periodic cleaning of the access ways related to the construction site, and the spraying of areas with water where necessary.

As a measure to reduce dust emissions, the load of material should be covered during transport, and the dump trucks must be provided with tarpaulins.

The activity should be reduced/stopped in the case of inclement weather (high temperatures, strong wind, etc.). In the case of normal weather conditions, if there is risk of dispersion of particles in the atmosphere, dusty materials should be sprayed with clean process water, if necessary. A simple measure that must be considered by the contractor is to keep the work area and access roads as clean as possible. Furthermore, the construction site organisation should establish the places where the various materials will be stored and, if necessary, they should be stored in closed spaces, or at least covered with tarpaulins.

During the works, the work areas will be limited and marked distinctly in visible places using standardized ISO signs, to limit the potential impact on the environment or the occurrence of any accidents.

Moreover, in order to reduce the impact on the air environment factor, there should be limited the operating time of machinery and vehicles to what is strictly necessary, through an efficient organisation of the project works.

Operating phase

The investment consists in the construction on the site owned by MASS GLOBAL ENERGY ROM S.R.L., part of the Mass Group Holding, of a combined cycle gas turbine power plant, MASS Mintia CCGT, equipped with two gas turbines, two heat recovery boilers without supplementary firing and a steam turbine (2 x GT + 2 x HRB + 1 x ST) totalling an installed power of 1770 MW_e (rated thermal power 2 x 1557 MW_t), equipped as follows:

- 2 identical gas turbines, Siemens 9000 HL, with a generator unit capacity of 600 MWe;
- 2 heat recovery steam generators (HRSG) without supplementary firing, to generate the superheated steam required for the condensing steam turbine;
- 1 condensation steam turbine, Siemens, with a generator unit capacity of 570 MWe.

The first stage of the investment, consisting of the commissioning of the two gas turbines and their operation in open cycle, will be completed within 24 months, and the project will reach full maturity (combined cycle operation with two gas turbines, two steam recovery boilers and a steam turbine) in 36 months.

All components of the plant will be prepared for the transition to new hydrogen-based energy generation technologies.

The configuration of the new power plant provides an auxiliary steam boiler which, in cases of total shutdown of the new power plant, will ensure the steam required to start the units from any thermal state, the steam for the generation of thermal energy to heat the new combined cycle power plant (the related administrative premises), as well as the steam to protect the equipment/keep the equipment warm.

The fuel used by the gas turbines and the auxiliary steam boiler of the MASS Mintia Power Plant is gaseous – natural gas.

The secondary deNoxing process - selective catalytic reduction (SCR), with ammonia, will be used to reduce the NO_x emissions from the flue-gases generated by large combustion plants.

The flue-gases will be discharged through the main stacks each GT+HRB set is provided with, through the individual by-pass stacks the two GTs are equipped with, and through the stack provided for the auxiliary steam boiler.

Table 4 Dimensions of flue-gases stacks

Source type	Physical height [m]	Inner diameter at top [m]
2 gas turbine plants (GT+HRSG) without supplementary firing) - Main flue-gases stacks	65	7.19
2 GTs - By-pass stacks	60	9.09
Auxiliary steam boiler	16	1.0

The height of the flue-gases stacks required for the new investment was determined both in gas-dynamic terms and in terms of the dispersion of flue-gases in the atmosphere in order to protect human health and the environment, considering the fuel used and the technical characteristics of the new energy installations, as well as the existence in the area of other sources of emissions of polluting substances.

Each GT and each GT+HRSG set make up large combustion plants (thermal power ≥ 50 MW) which, in operation, must comply with both the provisions of **Law 278/2013** on industrial emissions, the activity carried out being included in Annex 1 to the Law, as well as of the **Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants.**

In accordance with the *Law 278/2013, Annex 5 Technical provisions relating to combustion plants, part 2*, the emission limit values (mg/Nm³) for NO_x and CO laid down for a loading above 70%, at an O₂ content of 15% are the following:

- NO_x 50 mg/Nm³;
- CO 100 mg/Nm³.

According to *Law 278/2013 on industrial emissions*, Article 14(3), the conclusions regarding the best available techniques (BAT) underlie the establishment of the conditions for authorising the installations covered by Chapter III of the Law, and the competent authorities must establish emission limit values ensuring that, under normal operating conditions, the emissions do not exceed the emission levels associated with the best available techniques, set out in the BAT conclusions.

For large combustion plants, in accordance with the *Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants*, the BAT provisions for combined cycle gas turbines (CCGT) and open cycle gas turbines are as follows:

Table 5 BAT-associated emission levels for CCGTs and OCGT

Type of combustion unit	Thermal power (MW _{th})	Net electrical efficiency (%)	NO _x BAT-AELs (mg/Nm ³)		CO BAT-AELs (mg/Nm ³)	NH ₃ BAT-AELs (mg/Nm ³)
			Annual average value	Daily average value or average value over the sampling period	Annual average value	Annual average value or average value over the sampling period
CCGT	≥ 600	57 ÷ 60.5	10 ÷ 30*	15 ÷ 40*	5 ÷ 30**	3****
OCGT	≥ 50	36 ÷ 41.5	15 ÷ 35	25 ÷ 50	5 ÷ 40***	10****

NOTE:

*For installations with a net electrical efficiency (EE) higher than 55%, there may be applied a correction factor to the upper limit of the BAT-AEL range, equivalent to [upper limit] × EE/55, where EE is the net electrical efficiency of the plant, set under base load ISO conditions.

** For installations with a net electrical efficiency (EE) higher than 55%, there may be applied a correction factor to the upper limit of the range, equivalent to [upper limit] × EE/55, where EE is the net electrical efficiency of the plant, set under base load ISO conditions.

*** For installations with a net electrical efficiency (EE) higher than 39%, there may be applied a correction factor to the upper limit of this range, equivalent to [upper limit] × EE/39, where EE is the net electrical efficiency or the net mechanical efficiency of the plant, set under base load ISO conditions.

**** BAT-associated emission levels (BAT-AEL) for NH₃ airborne emissions resulting from the use of SCR and/or SNCR. The lower limit of the range can be reached when using SCR and the upper limit of the range can be reached when using SNCR without wet reduction techniques.

The operation of the auxiliary steam boiler must be compliant with *Law 188/2018 on the limitation of emissions of certain pollutants into the air from medium combustion plants* for new combustion plants.

Thus, according to the law and considering the type of fuel used (natural gas), the NO_x emissions generated by the auxiliary steam boiler will not exceed in operation the emission limit values provided in Part 2 of Annex 2, i.e. 100 mg/Nm³.

VI.A.3 Protection against noise and vibration

Construction phase

The sources of noise and vibrations in this stage will be represented by the operation of the machinery and the means of transport used by the contractor of the construction-assembly works, as follows:

- mobile non-road equipment;
- operations of cutting by welding and assembly of metal elements;
- handling equipment and materials;
- the traffic related to the supply with materials.

The noise pollution will primarily affect the workers on the construction site, which is why *GD 1756/2006 on limiting the noise emission in the environment by equipment for use outdoors* should be complied with.

The noise level generated by the use of the equipment necessary for the execution of the construction-assembly works inevitably exceeds the noise level allowed during the execution of the works in the working area. The level of noise and vibration must observe the limits provided in *OMS 119/2014 approving the hygiene and public health rules on the living environment of the population*, as amended.

To avoid the increase of the noise level above the permissible limit set forth by *STAS 10009/2017 Urban acoustics*, the construction-assembly works will be organised in such a way as to avoid the simultaneous operation of a large number of technological machinery and means of transport. Noise propagation is also limited by the natural obstacles specific to the land on the site.

In order to reduce noise and vibrations, there will be used quieter machines and machinery, provided (if necessary) with vibration attenuation, with up-to-date periodic technical inspections, and the vehicles that transport the materials and equipment necessary for the investment works will travel on dirt or ballasted roads at a maximum speed of 30 km/h.

The vibrations generated by equipment and machinery do not reach below 20 Hz, the threshold below which the human body is affected.

The contractor must ensure appropriate working conditions and must comply with the regulations in force (*Law 319/2006 on safety and health at work*, *GD 300/2006 on the minimum safety and health requirements for mobile construction sites*, *GD 493/2006 on the minimum safety and health requirements for the exposure of workers to the risks generated by noise*).

Operating phase

The main sources of noise related to the MASS Mintia combined cycle gas turbine power plant are the equipment with moving subassemblies (gas turbines, steam turbine, gas compressors, air compressors, fans, pumps, etc.).

The project provided measures to reduce noise by building special constructions where the equipment with moving subassemblies will be installed (gas turbine room, recovery boiler room, compressor building, etc.), the installation of silencers on the flue-gases discharge routes, the construction of sound-absorbing protective devices intended to reduce the noise level of some equipment, as well as the operation and maintenance of the equipment according to the technical prescriptions.

The noise level at the boundary of the premises of the MASS Mintia Power Plant will observe the maximum values provided by *STAS no. 10009/2017 - Urban Acoustics*, i.e. 65 dB. According to the General Project Information, it is 70 dB(A) at the boundary of the premises

In the normal operation of the MASS Mintia CCGT power plant, the noise generated by the new equipment (compressors, turbines, fans, pumps, etc.) will not exceed the permissible limit of the continuous equivalent noise level of 87 dB(A) and, respectively, the permissible limit of the noise level for workplaces requiring increased attention of 75 dB(A), as provided by *GD 493/2006 on the safety and health requirements for exposure to the risks generated by noise*

VI.A.4 Protection against radiation

No radiation protection measures are required during the works to be performed.

During the construction and operation of the new MASS Mintia combined cycle gas turbine power plant, no radioactive substances and no radiation sources will be used. The works and activities proposed for the investment do not use radiation, and thus no special measures against it must be taken.

VI.A.5. Soil and subsoil protection

Construction phase

The soil will be affected only in terms of occupying plots which currently have other uses. Soil/subsoil pollution is manifested through physical degradation as a result of the construction site organisation development and of carrying out the investment works.

Other possible effects on the soil may be mainly due to accidental spills of fuels/lubricants, inadequate storage of materials to be transported or waste to be disposed of. Therefore, the contractor must carefully monitor the use of the equipment provided and the works performed, in order to avoid situations similar to those mentioned above.

The works will be carried out within the premises of the MASS Mintia Power Plant only in the areas provided by the construction-assembly project, and there will be avoided any impact on the neighbouring areas. Therefore, the contractor will agree with the beneficiary the place and method of developing the construction site organisation.

The construction materials necessary for the execution of the construction-assembly works will be stored in the contractor's warehouses, and the transport to the work area will be carried out by vehicles on the existing roads within the premises.

The works provided by the project for the construction of the MASS Mintia Power Plant will consist of:

- preparatory works for starting the execution (construction site organisation, site clearing where appropriate, etc.);
- construction works for the execution of foundations and buildings for new equipment;
- works for the assembly of new equipment;
- works for the inclusion of new equipment in the electrical technological system and in the automation installation;
- technical inspection works, checks, verifications, and commissioning tests.

During the construction period, in order to protect the soil and the subsoil, there must be considered simple but effective measures, such as:

- at the start of the works, there will be established the place/method for the temporary storage of waste for further recovery or disposal;
- avoiding the direct storage on the soil of construction materials and waste resulting from the works;
- the removal of any materials placed on the soil (if any) and their controlled temporary storage in separate areas on the site, to be transported to appropriate and authorised warehouses or to be recovered;
- avoiding the storage on the soil of materials which, following exposure to precipitation, lead to infiltration in the soil and the phreatic aquifer (by waterproofing the storage surfaces);
- setting up parking areas for vehicles and machinery involved in the works;
- the machinery and means of transport used will be kept in good working order and defects will be reported as soon as possible and repaired at specialised units, not on the site;
- equipping the work areas with absorbent materials and/or neutralising substances for quick response in the case of accidental pollution caused by fuel and/or lubricant leaks;
- on the areas with vegetation adjacent to the works site, the surfaces from which the topsoil was accidentally removed will be grassed, if applicable;
- controlling the process of cleaning the land used as for the construction site organisation before it is returned to the beneficiary.

The measures taken through the construction site organisation, as well as those necessary for the organisation of the activity itself, will contribute to an important reduction of the potential impact on the soil and subsoil.

The entire land surface in the area where the equipment of the future power plant will be located will be covered by concrete platforms, and the remaining free spaces will be properly developed to complement the landscape.

It is considered that the work to be carried out will not affect the subsoil, thus requiring no additional protection works.

Operating phase

In the operating phase, due to the fitting out (concrete-clad platforms where necessary, asphalted roads, landscaped and maintained green spaces, drains to take over the collection and recovery of potential accidental leaks), it is considered that the facilities included in the new investment (performance indoor/outdoor equipment) will have no impact on the soil and subsoil. Any leaks of oil from certain areas of the plant (GT and ST main transformers and auxiliary transformers, GT building, ST building, gas compressor station transformers, gas compressors, transformer area, water treatment plant, diesel generator, diesel fire water pumps) will be collected in dedicated tanks located in concrete tanks, properly sized, from where they will be sent to an oil separator (**Annex F**).

For car and pedestrian access to the newly designed buildings and facilities within the MASS Mintia CCGT Power Plant premises, there will be made new road connections and road platforms, from the road network existing on the site of the former SE Deva industrial facility.

The use of natural gas as a fuel does not lead to the occurrence of sources of pollutants for the soil.

Under the normal operating conditions of the new equipment, there is no potential contamination of the soil within the premises of the MASS Mintia CCGT power plant and its surroundings.

VI.A.6 Protection of terrestrial and aquatic ecosystems

Due to the specific and precisely located nature of the works related to the combined cycle gas turbine power plant, MASS Mintia CCGT, the contractor will ensure, through the construction site organisation, the protection of the neighbouring areas.

The activity to be carried out within the site of the MASS Mintia Power Plant will not affect the terrestrial or aquatic ecosystems.

There are required no additional works, equipment and/or restrictive measures to protect the area's biodiversity or natural monuments.

VI.A.7 Protection of human settlements

Construction phase

With respect to the impact on populated areas, please note that the investment works are carried out within the premises of an industrial site where Societatea CE Hunedoara S.A. - SE Deva carried out its activity (with the "constructions and yards" current use of the land and the "industrial units and warehouses area" use established by the General Urbanism Plan).

The nearest settlements to the location of the new MASS Mintia Power Plant are at approximately 700 m to the west-northwest, in the Vețel Commune, and approximately 700 m to south-south-west, in the Herepeia Village. Considering the distance from the site of the works to the inhabited areas, there are required no additional works, equipment, and measures to protect human settlements and the facilities which are protected and/or of public interest, compared to those of a constructive and technological nature.

The possible sources of impact on human settlements and other facilities of public interest are the noise and vibrations generated by the execution of the investment works, the emissions of dust and polluting substances associated with the operation of the machinery and the movement of the means of transport involved in the works, the uncontrolled storage of waste.

For the daily technological and administrative work activities, the contractor (in the design it will draw up) will place the construction site organisation on the space indicated by the beneficiary, which will also be specified in the convention to be concluded between them, for the period of execution of the works. The organisation of construction-assembly works lies with the contractor, and the working hours will be set so as not to disrupt the activity of the neighbouring units.

The components of the construction site organisation will be temporary shack-type constructions for offices, workshops, changing rooms, storage spaces, technological spaces/platforms, etc. and will only be operational during the investment execution period, to be decommissioned upon the completion of works.

Upon the completion of the construction-assembly works, all work areas of the construction site organisation will be cleaned and cleared of materials and equipment, restoring their previous use.

- Near the site of the MASS Mintia Power Plant, according to the ***List of Historic Monuments***, updated, approved by the Order of the Minister of Culture and Cults 2.314/2004, as amended, and the ***National Archaeological Repository*** provided by the Government Ordinance 43/2000 on the protection of the archaeological heritage and the declaration of certain archaeological sites as areas of national interest, republished, as amended and supplemented, there are the following National Archaeological Repository facilities:
- *The Roman tomb from Mintia*, road type, communication line category and the Reformed Church from Mindia, religious edifice type, cult structure category;

- *The Neolithic settlement from Mintia – Gerhat*, settlement type, residential category, located next to the road crossing built to cross the industrial railway serving the thermal power plant from the locality;
- *The Roman settlement from Mintia - Acetylene Factory*, settlement type, residential category, located at the foot of the Poiana Ruscă Mountains, on the left bank of Mureş, at approximately 10 km west of Deva, near the Micia military vicus;
- *The archaeological site from Veţel - Micia (code HD-IsA-03214)*, civil settlement & military settlement type, residential category, located on the southern bank of the Mureş River, next to the Mintia thermal power plant, along the E68/E673 road and the railway to Deva.

The real estate property (land and buildings), owned by MASS GLOBAL ENERGY ROM S.R.L., is located in the Micia-Veţel archaeological site, included in the 2015 List of Historic Monuments (*code HD-I-s-A-03214*).

If, during the execution of the works, there will be identified archaeological materials or undisturbed anthropogenic deposits, the works will be stopped in that perimeter in order to carry out preventive archaeological research.

Operating phase

The new combined cycle gas turbine power plant, MASS Mintia CCGT, is equipped with high-performance equipment which will be located and operated in such a way that it can ensure the protection of human settlements and of public interest facilities during the period of operation.

VI.A.8 Waste management

The waste generated during the stage of execution of the construction works for the new MASS Mintia CCGT power plant and during its operating stage, will be managed in compliance with *GEO 92/2021 on the waste regime*, as amended and supplemented. All waste will be collected selectively and temporarily stored, in compliance with the legal provisions on waste management (*GD 856/2002 on waste management records*, as supplemented) or handed over to companies specialised in waste collection.

Construction phase

The amount of waste generated by the actual construction-assembly works will be reduced, and the contractor will be responsible for the collection thereof throughout the construction site's existence. There will also be generate waste in the form of materials used as packaging for the equipment brought to the construction site for the assembly works. These will be collected selectively and will be temporarily stored in spaces specially arranged by the contractor, according to the specialised guidelines in force. The decision on the recovery or final storage in compliant warehouses of the materials generated as waste by the construction-assembly works will be made by the contractor, unless the contract provides otherwise.

The resulting metal waste will be temporarily stored within the premises of the construction site organisation, until it will be taken over as recyclable industrial waste (scrap metal) by authorised companies.

The contractor will make sure that the materials are supplied do as not to create any stocks which, due to depreciation, lead to the generation of waste.

The generated waste will be stored in clearly marked and signposted areas, and the storage containers will be labelled. Care shall be taken not to exceed the storage capacity of the containers.

Part of the waste generated in this stage will be reused or recovered with the help of specialised companies (e.g. iron, non-ferrous materials), and the rest will be temporarily stored in/on specially designed containers or platforms, from where they will be later collected and removed by a specialised and authorised company, in agreement with the local and environmental authorities.

The types of waste, according to GD 856/2002, which can be generated during the construction-assembly works and the methods of managing them are centralised in the following table.

Table 6 Waste generated by the construction-assembly works related to the new MASS Mintia Power Plant

Waste	Waste code	Waste management
Iron and steel	17.04.05	Collected separately and recovered by means of authorised companies within the recoverability limits
Aluminium and alloys	17.04.02	Collected separately and recovered by means of authorised companies within the recoverability limits
Copper and alloys	17.04.01	Collected separately and recovered by means of authorised companies within the recoverability limits
Cables	17.04.11	Temporary storage and recovery by specialised companies
Plastics	17.02.03	Collected separately and recovered by means of authorised companies within the recoverability limits
Construction materials	17.01.07	Separately collected and recovered/disposed of by means of specialised companies to non-hazardous waste disposal sites
Household waste	20.03.01	Temporary storage and disposal by specialised companies
Paper and cardboard	20.01.01	Collected separately and recovered by means of specialised companies

In the installations to be made, there will not be used as insulating material asbestos or other construction materials containing asbestos.

Operating phase

During the operation of the MASS Mintia CCGT power plant, there will be kept records of the generated waste, according to GD 856/2002, considering the type of waste, its code, the quantity generated.

The following table presents an indicative general list of the possible waste that can be generated by the operation of the MASS Mintia Power Plant.

Table 7 Types of waste that may be generated in operation and the method of managing waste

Waste	Waste code	Waste management
Iron, cast iron, steel	17 04 05	Collected separately and recovered by means of authorised companies within the recoverability limits
Waste rubber	17 06 04	Separately collected and recovered/disposed of by means of specialised companies to non-hazardous waste disposal sites
Textile waste	20 01 11	Collected separately and recovered by means of authorised companies within the recoverability limits
Light bulbs, fluorescent tubes	20 01 21	Collected separately and recovered by means of authorised companies within the recoverability limits
WEEE	20 01 36	Collected separately and recovered by means of authorised companies within the recoverability limits
Plastic/ PET/ PVC	20 01 39	Collected separately and recovered by means of authorised companies within the recoverability limits

Waste	Waste code	Waste management
Cardboard/ Paper	20 01 01	Collected separately and recovered by means of authorised companies within the recoverability limits
Solutions and sludges from the regeneration of ion exchangers	19 09 06	Collected separately and recovered by means of authorised companies within the recoverability limits
Waste oil	12 01 07	Collected separately and recovered by means of authorised companies within the recoverability limits
Absorbents, filter materials	15 02 02	Collected separately and disposed of by means of specialised companies
Household and industrial waste	20 03 01	Separate collection, temporary storage, and disposal by means of specialised companies to non-hazardous waste sites

VI.A.9 Management of hazardous chemical substances and preparations

Construction phase

During the execution of the works for the construction of the MASS Mintia combined cycle gas turbine power plant, there will be used substances which, due to their composition, are classified as hazardous chemical substances and preparations. These substances are generally fuels (diesel) used for the operation of the means of transport and machinery.

The means of transport and machinery will not be refuelled on the site. The machinery will be brought to the site in perfect working condition, having undergone technical overhauls and lubricant changes. Lubricant changes and maintenance/repair operations will be carried out on machinery and means of transport in specialised workshops.

Operating phase

During the operation of the MASS Mintia combined cycle gas turbine power plant, the hazardous chemical substances and preparations used are as follows:

- natural gas, fuel for gas turbines and auxiliary steam boiler;
- hydrogen, for cooling the three electric generators related to the gas turbines and the steam turbine;
- ammonia, for the conditioning of the feed water of the heat recovery boilers and the reduction of NOx emissions from the flue-gases, through the secondary process of denoxation - selective catalytic reduction (SCR);
- substances for water conditioning/treatment (phosphate, sulfuric acid 98%, hydrochloric acid 33%, hydrofluoric acid 40%, caustic soda 45-48%, ethylene glycol 99.8%, sodium hypochlorite 12-15%, other chemicals);
- lubricating and regulating oils used for the operation of the power plant;
- diesel for the emergency diesel generator.

The hazardous chemical substances and preparations will be managed in compliance with the legislation in force and the safety data sheets accompanying the products.

All hazardous chemical substances and preparations will be stored in specially provided spaces, in the original packaging in which they are delivered by the manufacturer. Each hazardous chemical substance and preparation will be accompanied by the safety data sheet provided by the manufacturer.

The personnel using hazardous chemical substances and preparations will be regularly informed and trained about the hazards that could be caused by them and how to act in the event of incidents. These materials will be used by personnel wearing the appropriate protective equipment, indicated in the safety data sheets.

Annex G presents the inventory of chemical and hazardous substances used during the operation of MASS Mintia CCGT.

The hazardous substances will be stored in accordance with the requirements of the safety data sheets accompanying the products. In the case of spills of hazardous substances on floors, there will be taken the measures specified in the safety data sheets, and the contaminated water will be sent to the chemical wastewater treatment plant.

The results of the calculation regarding the hazardous substances stored in the new power plant, carried out in accordance with the sum rule from Table 1, Annex 3, MAPM Order 1175/39/2019, showed that they are below 1 for both the lower level and the upper one. The operation of MASS Mintia CCGT is not covered by Law 59/2016.

VI. B Use of natural resources, especially of soil, land, water, and biodiversity

Construction phase

The natural resources used in the execution stage are as follows: soil (excavated and reused to restore it to its original state at the end of the works), gravel, ballast, natural aggregates for preparing concrete (sand, gravel, etc.) and water for spraying the working areas. The necessary materials will be supplied only by authorised suppliers.

Water consumption will be strictly limited to the hygienic-sanitary needs and the execution of the works provided by the project. The drinking water required for the personnel performing the works will be provided by the contractor, using, according to current practice, off-the-shelf plastic containers.

The investment works proposed by this project will be carried out within the premises of the real estate property (land and constructions) located within the built-up area of Mintia, private property of MASS GLOBAL ENERGY ROM S.R.L., according to the Urbanism Certificate 2/3.02.2023.

During the performance of the works, there will be temporarily occupied plots which currently have other uses but, upon the completion of the works, these plots will be returned to their original state, restoring their use prior to the start of the investment works.

The investment works are carried out within the premises of the former Societatea CE Hunedoara S.A. – SE Deva, on the site of some existing buildings which will be demolished, on thus there is no additional use of the soil.

According to the Urbanism Certificate no. 2 of 3.02.2023, the maximum allowed land occupancy percentage is 70% and the land use coefficient - according to Articles 22 and 23 of the Local urbanism regulation approved by the Local Council Decision of the Vețel Commune 20/2020.

The site of the investment works in relation to the land use is shown in the following figure.

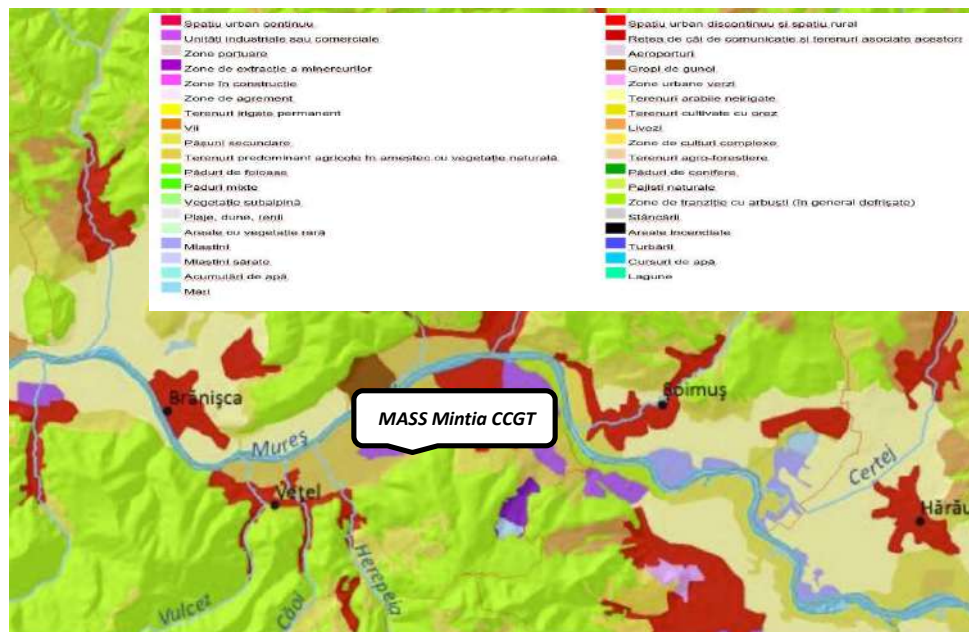


Figure 6 The site of the works related to the investment in relation to the land use

Operating phase

For the operation of the MASS Mintia combined cycle gas turbine power plant, water and natural gas are used as natural resources. Having regard to the fact that the implementation of the project aims to improve the efficiency of use of both fuel and utilities, by applying the Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants, there can be concluded that the direct effect of the investment is the efficient use of natural resources, in accordance with the European sustainable development policy.

The site of the MASS Mintia CCGT power plant does not overlap with the protected areas of the Natura 2000 Network, and thus the biodiversity is not used.

VII. DESCRIPTION OF ENVIRONMENTAL ASPECTS LIKELY TO BE SIGNIFICANTLY AFFECTED BY THE PROJECT

The potential impact on environmental factors differs according to the various stages of project implementation, i.e. during the construction-assembly works and during the operation of the investment.

The investment works can may impact the environmental factors directly or indirectly by affecting the quality of the environmental factors, an impact which is limited to the time and space intended for execution. The works provided by the project will be carried out as preparatory works (construction site organisation) and as works on the existing industrial site where Societatea CE Hunedoara S.A. – SE Deva carried out its activity (which ceased in the summer of 2021). According to the Urbanism Certificate 2/03.02.2023 issued by the Vețel Commune Hall, the current use of the land is “constructions and yards” and the use established according to the General Urbanistic Plan is “industrial units and warehouses area”.

The contractor should coordinate the works so that the regulations in force covering the specific activities in the work area are respected and the potential impact on the environment to be reduced to a minimum.

During the operation of this investment, considering the constructive solutions provided from the design phase, there will be no significant impact on the environment.

Impact on population and human health

The impact during the construction-assembly period

The impact on the population and human health is minimal because the investment is made in a former industrial area, with the current use of the land of “constructions and yards” and the use established according to the General Urbanistic Plan of “industrial units and warehouses area”.

During the period of execution of the project works, the impact on the population and human health will be mainly due to noise sources (machinery and means of transport involved in the execution of the works), the intensification of heavy traffic, the movement of sedimentary dust (construction-assembly works, transport of construction materials) and emissions of polluting substances associated with means of transport and machinery involved in the execution of construction-assembly works.

The observance of the health and safety measures at work by the personnel carrying out the execution works will minimize the possibility of technical or human accidents.

Having regard to the fact that the project works are carried out on an existing industrial site - the former Societatea CE Hunedoara S.A. - SE Deva, they will not have an impact on the population and housing, considering the distances to the first private households in Mintia, which are over 800 m.

The potential impact on the population and human health is assessed as *direct, non-significant negative, temporary during the period of the works*.

The impact during the operation period

For the operation period, the impact of this investment is *positive, in the long term*, considering that the implementation of the investment, which will have an important role in the NPS, by restoring the electricity balance in the centre and west of the country and by participating in the regulation of the NPS operating parameters, will lead to reducing emissions of atmospheric pollutants and gas emissions with greenhouse effect, considering the operation of the facility using natural gas and the equipment of the power plant which involves

the superior use of natural gas, under advantageous economic conditions, at increased efficiencies compared to classic cycles.

Impact on flora and fauna

This investment will be implemented within the premises of an industrial site where Societatea CE Hunedoara S.A. - SE Deva carried out its activity (with the “constructions and yards” current use of the land and the “industrial units and warehouses area” use established by the General Urbanism Plan), and thus no additional plots will be required, and the fauna and flora will not be impacted. The project does not overlap with NATURA 2000 protected areas.

In accordance with the *Initial Assessment Stage Decision 1202/16.02.2023 (Annex A)*, the project does not fall under the provisions of Article 28 of the Government Emergency Ordinance 57/2007 on the regime of natural protected areas, the conservation of natural habitats, wild flora and fauna, approved as amended and supplemented by Law 49/2011, as amended and supplemented.

It is estimated that the impact of the proposed investment on the flora and fauna is a *negligible impact*.

Impact on soil and subsoil

The impact during the construction-assembly period

The impact on soil is of mechanical nature, for a short period of time and limited to the area of construction site organisation and work areas (temporary occupation). The impact on the soil will be reduced as much as possible by using as small land areas as possible (established by the design), arranged for the temporary storage of waste and materials used in the works, and these areas will be cleaned by the contractor upon the completion of the works.

Having regard to the specifics of the investment (construction of a combined cycle gas turbine power plant on an existing industrial site), there is estimated that the impact on the soil and subsoil is *direct, non-significant negative, temporary during the period of the works*.

The impact during the operation period

During the operation of the facility, there can be identified no negative impact on the soil and subsoil, considering the fuel used by the new MASS Mintia Power Plant (natural gas) and the site of the objects related to this investment on concrete platforms.

The impact on uses, assets

Not applicable, as the site of the proposed investment is exclusively within the premises of an existing industrial site where Societatea CE Hunedoara S.A. - SE Deva carried out its activity, with the “constructions and yards” current use of the land and the “industrial units and warehouses area” use established by the General Urbanism Plan.

Impact on water quality and quantity regime

The impact during the construction-assembly period

During the period of the investment works related to this project, the potential impact on water quality is determined by changes in water quality caused by pollution with contaminants which alter the physical, chemical, and biological properties in the project area.

The site of the investment MASS Mintia combined cycle gas turbine power plant, Hunedoara County, is in the Mureş Hydrographic Basin, near the Mureş, Herepeia (Bretelin) and Caian watercourses and their tributaries.

In terms of groundwater, the site of the new power plant lies between the groundwater body ROMU07 Mureş River Corridor (Alba Iulia-Lipova) and the groundwater body ROME12 Bretelin (Poiana Ruscă Mountains).

There are recommended measures for good organisation of the works in order to protect the groundwater, so as to avoid the spillage of various materials (especially liquids) on the ground. In the event of accidental pollution caused by fuel and/or lubricant leaks from faulty means of transport and/or machinery, there will be immediately used absorbent/neutralising substances and the machinery faults will be repaired only in specialised service units.

There is estimated a *direct, non-significant negative, temporary impact during the period of the works*.

The impact during the operation period

During the operation period of the facility, no negative impact on water quality can be identified, considering that all categories of wastewater (process, domestic, rainwater) will be collected, treated, and discharged in a controlled manner from the premises of the new MASS Mintia CCGT power plant.

Impact on air quality

The impact during the construction-assembly period

The impact on the air environmental factor, associated with the execution of the construction-assembly works related to the investment (land development, excavation for foundations, welding/cutting activities) and the transport of construction materials, consists of emissions into the atmosphere of sedimentary dusts and burnt gases from the machinery and means of transport used to carry out the works.

There will be a reduced and time-limited level of air pollution in the work areas and there will be pursued the compliance with *Law 104/2011 on the quality of ambient air* and with *STAS 12574/87 on the protection of the atmosphere*, using only compliant machinery and means of transport, whose emissions will comply with the requirements of the regulations in force.

The impact associated with dust and pollutant emissions on air quality is assessed as *direct, minor negative, temporary during the execution of the works*, without significant effects on the vicinity of the location where the works related to the proposed investment are carried out if the measures presented in the previous chapter are applied.

The impact during the operation period

During the operation period, the impact on air quality will be *direct, positive, long-term*, compared to the operation of the former SE Deva industrial facility, considering the fuel used (natural gas instead of coal) and the equipment of this investment, which involves the superior use of natural gas, at increased efficiencies compared to classic cycles, which will lead to the reduction of emissions of polluting substances discharged into the atmosphere and of emissions of greenhouse gases.

Impact on the climate

In correlation with the geographical location in the central-western part of Romania, the climate of Hunedoara County falls into two climatic subdivisions of our country, namely:

- mountain climate land, with slopes exposed to the west winds, covering the entire mountainous area;
- continental-moderate hilly climate land (200 - 800 m altitude), of special note being the Hațeg and Brad depressions¹².

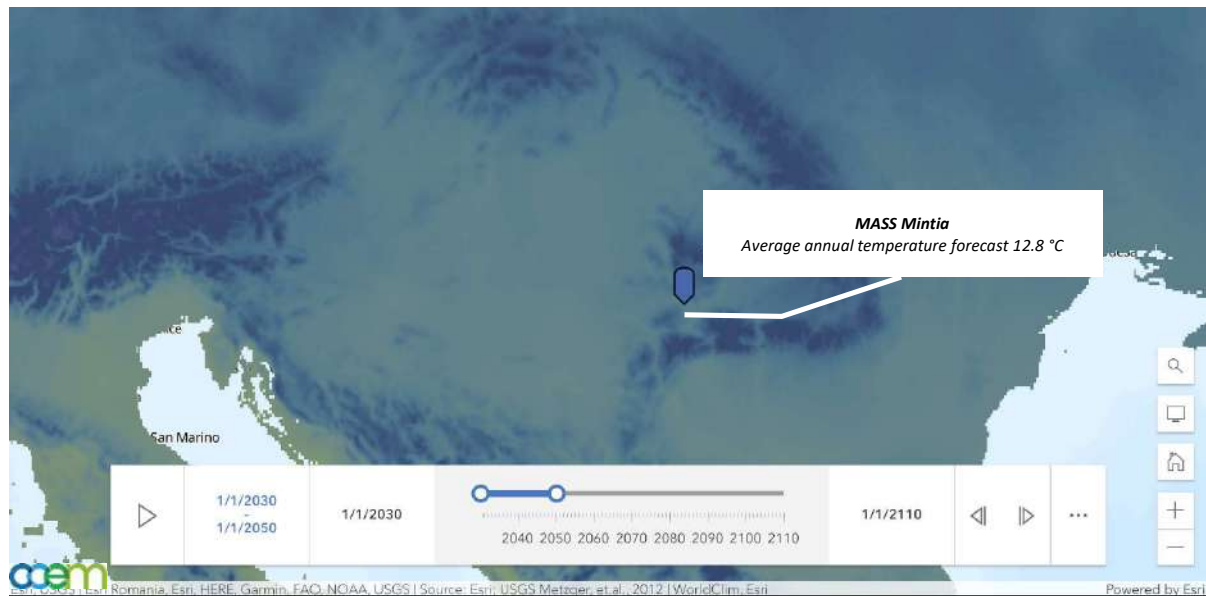


Figure 7 Average annual temperature forecast for 2050

In the entire county, the average annual temperatures (10 °C Lunca Mureșului, - 2 °C Retezat and Parâng Mountains), lead to a territorial thermal contrast of 12 °C, the extremes occurring in the actual mountain areas (- 2 °C and - 6 °C) and in the Mureș sector, downstream of Deva (about 10 °C). The average temperature in the depressions is influenced by several factors, such as the intramountain position, the degree of openness, the circulation of air masses.

The precipitation regime is also influenced by the altitudinal elevation of the relief, by the position in relation to the direction of movement of the air masses (predominantly from the western sector in the county). In general, the average annual amount of precipitation decreases along Mureș from the west (600.9 mm at Deva) to the east (540 mm at Geoagiu) and from the mountains to the depressions: from 1,400 mm on the high mountains in the south of the county to 700 mm in the Petroșani and Hațeg depressions, from 1,200 mm on the Poiana Rusca and Găina Mountains located perpendicular to the dominant direction of air circulation and 1,000 mm in the Zarand and Metaliferi Mountains to 750-800 mm in the Brad Depression (open to the west) and 600-550 mm on the Mureș Valley.

¹²<https://www.cjhunedoara.ro/documente/2021/Anunturi/11Propunere%20PMCA%20%C3%AEn%20jud.%20Hunedoara.pdf>

According to the data reported in the *2022 Statistical Yearbook of Romania*, the historic climate parameters recorded at the Deva meteorological station, located closest to the proposed project site, are as follows:

- average annual temperature: 9.9 °C in the historic period 1901-2000 and 10.5 °C in the last historic year 2021;
- maximum annual temperature: 39.7 °C in the historic period 1901-2000 (16 August 1952) and 37 °C in the last historic year 2021 (28 July 2021);
- minimum annual temperature: -31.6 °C in the historic period 1901-2000 (24 January 1963) and -12.2 °C in the last historic year 2021 (13, 14 February 2021);
- annual atmospheric precipitation: 555.1 mm in the historic period 1901-2000 and 636.4 mm in the last historic year 2021.

Looking ahead to 2050, according to the WorldClim (www.worldclim.org) database which includes information on the forecast evolution of the dynamics of the climate parameters relevant for the site of the proposed investment (average annual temperatures and average annual precipitation), forecast a gradual increase in temperature and a change in precipitation patterns are forecast.

For the analysed area, the evolution of average annual temperatures and average annual precipitation forecast for 2050 (according to the CMIP 6 climate model, the SSP2 4.5 modelling scenario¹³ – Average GHG emissions, implying the maintenance of CO₂ emissions at current levels until 2050 followed by their decrease until 2100) is presented in the following figure.

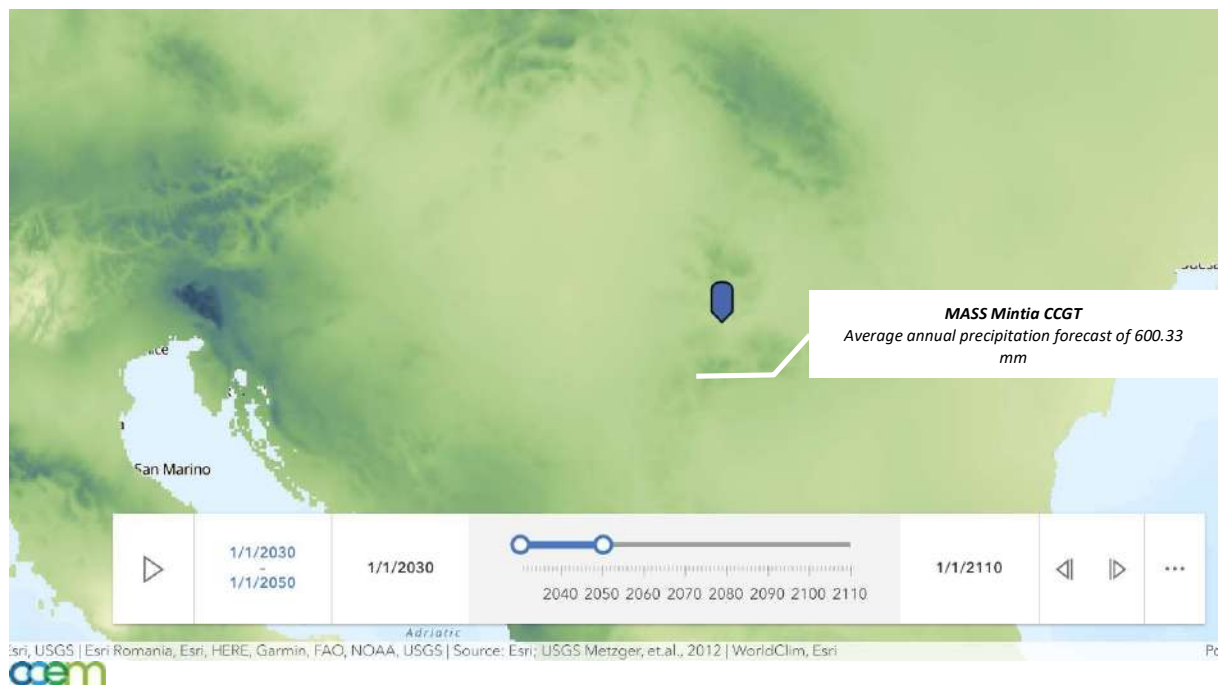


Figure 8 Average annual precipitation forecast for 2050

Source: WorldClim

13 CMIP: Coupled Model Intercomparison Projects; SSP: Shared Socioeconomic Pathway

The evolution of the average annual temperature forecast for 2050 (12.8 °C) assumes an upward trend, by approximately 2.9 °C compared to the historic period 1901-2000 and, respectively, by approximately 2,3 °C compared to the last historic year 2021.

The evolution of the amounts of annual precipitation forecast for 2050 (600.33 mm) assumes a downward trend, by approximately 36 mm compared to the last historic year 2021.

In light of the above, in correlation with the specifics of the proposed investment, which involves the superior use of natural gas, under advantageous economic conditions, at increased efficiencies compared to classic cycles, it is estimated that *the impact on the climate will be direct, non-significant negative, in the medium and long term.*

Impact of noise and vibration

The receivers for the noise and vibrations associated with the construction/operation of the new investment are the operating personnel, the personnel carrying out their current work near the construction site area and the neighbouring human settlements.

The impact during the construction-assembly period

The main noises will be due to the machinery and equipment used on the construction site, which will comply with the provisions of GD 1756/2006. The noises generated on the construction site, regardless of their source, can affect the operating personnel if there are not observed the protective measures imposed by the regulations in force (GD 300/2006 on the minimum safety and health requirements for temporary or mobile construction sites).

The impact of the noise generated by the machinery used for the carrying out the construction/assembly works related to the proposed investment is estimated to be *direct, minor negative, temporary during the execution of the works.*

The impact during the operation period

Having regard to the constructive solutions provided in the design phase to reduce noise (e.g. the location of equipment generating a high noise level in closed, isolated buildings, the installation of silencers on the flue-gases discharge path), the impact on the operating personnel and on human settlements in the immediate vicinity is estimated to be *direct, non-significant negative, permanent during the period of operation of the power plant.*

Impact on the landscape and visual environment

This investment, which will be implemented exclusively within the premises of the former Societatea CE Hunedoara S.A. - SE Deva, with the "constructions and yards" current use of the land and the "industrial units and warehouses area" use established by the General Urbanism Plan, will not affect the landscape and the existing visual environment - *negligible impact.*

Impact on the historic and cultural heritage

This investment will be made exclusively on the site of the former Societatea CE Hunedoara S.A. – SE Deva (anthropized site), which means that the chances of there being any unidentified historic monuments, cultural or archaeological sites on this land are very small. The real estate property (land and buildings) on which the MASS Mintia Power Plant will be built, owned by MASS GLOBAL ENERGY ROM S.R.L., is located in the Micia-Vețel archaeological site, included in the 2015 List of Historic Monuments (*code HD-IsA-03214*).

For this investment, there will be requested the approval from the Hunedoara County Department for Culture.

If, during the execution works, there are discovered any currently unknown archaeological vestiges, as per Law 5/2000, as amended, Order 2314/2004, as amended and supplemented, and Ordinance 43/2000, as amended and supplemented, the contractor has a firm obligation to immediately stop the works and notify the competent authorities within 72 hours.

The impact of this investment on the historic and cultural heritage is estimated to be *negligible, temporary during the execution of the works*.

Extent of the impact (geographical area, number of persons/habitats/species affected)

The impact associated with the execution of the works is a specific one, extended mainly at the level and in the immediate vicinity of the construction site organisations and work areas and the access routes to the construction site organisations and to the work areas.

The project works are carried out within the premises of the MASS Mintia combined cycle gas turbine power plant, located on a part of the premises where Societatea CE Hunedoara S.A. - SE Deva carried out its activity (with the “constructions and yards” current use of the land and the “industrial units and warehouses area” use established by the General Urbanism Plan).

Considering the distance from the site of the works to the inhabited areas, the impact on settlements and the population is estimated to be *neutral, temporary during the execution of the works*.

During the operation period, the proposed investment will have *direct, positive, and long-term impact* both due to the replacement of the fuel previously used by SE Deva (solid fuel) with gaseous fuel and due to the superior use of natural gas in the new MASS Mintia combined cycle gas turbine power plant, at increased efficiencies compared to classic cycles, with direct implications in reducing emissions of pollutants and with beneficial effects on air quality and climate change.

Impact magnitude and complexity

During the period of the project works, there is estimated that the negative impact generated by the execution of the works will not have a significant magnitude. During the period of the works, the impact will be manifested only in the area of the execution of the investment works.

The magnitude of the negative impact decreases proportionally with the distance from the generating sources. The negative impact is assessed as being of low complexity considering the fact that the investment will be made on an industrial site.

However, the positive impact is complex, considering the economic, social, and environmental factors indirectly benefiting from the implementation of the MASS Mintia Power Plant.

Impact likelihood

By complying with the measures provided by the project to reduce the impact on environmental factors and with the conditions imposed by the endorsements issued for this project, the likelihood of occurrence/extension of potential negative impacts on environmental factors will be reduced.

During the execution of the investment works, the impact on environmental factors is limited to the areas where the works related to this investment are carried out.

During the operation period, based on the constructive measures adopted and the operation regulations, which will be applied in accordance with the legislation in force, the likelihood of occurrence of events that determine a negative impact on environmental factors is reduced to a minimum.

Impact duration, frequency, and reversibility

During the execution of the investment works, the negative impact on the environmental factors is temporary, limited to the execution period (of 35 months) and reversible (after returning the site to its original state, the environmental factors are no longer influenced). The impact will have a variable frequency, depending on the staggering schedule and the type of works performed.

During the operation of the investment, the implementation of the mandatory measures to prevent and reduce the negative impact on the environment will contribute to reducing the duration and frequency of potential negative impacts.

Measures to avoid, reduce or mitigate the significant impact on the environment

The potential significant effects of the project on the environment, as well as the measures to avoid, reduce or mitigate the significant impact for each environmental factor, foreseen since the design phase, are presented in detail in Chapter VI.

Transboundary nature of the impact

Not applicable.

VIII. PROVISIONS FOR ENVIRONMENTAL MONITORING

The works required for the implementation of the project must comply with the environmental legislation.

For the construction site organisation period, the potential impact on the environment is characterised as non-significant negative, with a local effect and limited to the period of execution of the works.

There should be noted that the contractor must monitor the works covered by the project throughout their execution so as not to pollute the atmosphere, surface water and groundwater, soil, and subsoil. The measures to be adopted were presented in the previous subchapters.

During the execution of the works, the main elements monitored in this project will be the quantities of waste to be discharged from the area.

The personnel operating the machinery/equipment will periodically check the technical condition and operation thereof and any defects will be fixed immediately after identification in specialised centres and not on the site.

The monitoring indicators proposed for the MASS Mintia combined cycle gas turbine power plant **construction stage** are presented in the following table.

Table 8 Proposed monitoring indicators – construction stage

Environmental factor	Indicator	Frequency	Responsibility
Air	Operation of machinery and transport vehicles	Daily, visual monitoring	General contractor
Soil	Storage of raw materials, materials used and generated waste	Daily visual analysis of the storage of the materials used for the execution and of the storage of waste	General contractor
Noise	Measurement of the equivalent noise level: in the vicinity of the nearest dwelling to the boundary of the site	A campaign, before the start of the execution works (baseline situation). Measurement duration/point = at least 1 h	General contractor
Waste	The amount of generated waste	Monthly	General contractor

In the **operating stage**, the new combined cycle gas turbine power plant, MASS Mintia CCGT, is served by the automation installation, which allows the operation of the installations in compliance with the requirements for the protection of the environment and ensuring the maximum safety in operation both for the personnel and for the installation.

The large combustion plants fitted to the MASS Mintia combined cycle gas turbine power plant will be monitored in compliance with *Law 278/2013 on industrial emissions* and the Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants, which include express provisions regarding:

- the monitoring of the energy efficiency levels associated with the best available techniques (Decision (EU) 2021/2326 - BAT 2);

- the monitoring of key process parameters relevant for air emissions (Law 278/2013, Annex 5, Part 3. Monitoring of emissions and Decision (EU) 2021/2326 - BAT 3);
- the minimum frequency of monitoring air emissions (Law 278/2013, Annex 5, Part 3. Monitoring of emissions and Decision (EU) 2021/2326 - BAT 4).

In order to measure the emissions of polluting substances and the parameters of the flue-gases related to the large combustion plants (LCP) to be fitted to the MASS Mintia combined cycle gas turbine power plant, there will be provided continuous monitoring systems with flue-gases sampling from stacks.

The medium combustion plant (auxiliary steam boiler) fitted to the MASS Mintia Power Plant will be monitored in compliance with *Law 188/2018 on the limitation of emissions of certain pollutants into the air from medium combustion plants* (Annex 3).

The new combined cycle gas turbine power plant, MASS Mintia CCGT, will be provided with quantitative and qualitative measurement of incoming and outgoing water flows and volumes.

Solid waste will be collected inside the premises and the quality and type of waste will be monitored and the treatment/disposal method will be established.

Having regard to the applicable legislative acts/standards and the provisions of Decision (EU) 2021/2326, the project holder will monitor the indicators provided in the following table during the operational stage.

Table 9 Proposed monitoring indicators – operating stage

Indicator	Monitored parameters	Frequency	Legislative acts/ Applicable standards
Technological monitoring	BAT associated energy efficiency level	Performance test after the commissioning and each significant change	• Decision (EU) 2021/2326 (BAT 2) • EN, ISO, national, international standards
LCP key process parameters	Flowrate	Continuous	• Decision (EU) 2021/2326 (BAT 3) • ISO 10780:1994 - <i>Stationary source emissions -- Measurement of velocity and volume flow rate of gas streams in ducts</i>
	Oxygen content, temperature, and pressure	Continuous	• Law 278/2013, Annex 5, Part 3. Monitoring of emissions • Decision (EU) 2021/2326 (BAT 3) • SR EN 14789:2017 Stationary source emissions. Determination of volume concentration of oxygen (O₂). Standard reference method. Paramagnetism
	Water vapor content	Continuous*	• Law 278/2013, Annex 5, Part 3. Monitoring of emissions • Decision (EU) 2021/2326 (BAT 3) • SR EN 14790:2017 Stationary source emissions. Determination of the water vapour in ducts
LCP air emissions	NO _x	Continuous	• Law 278/2013, Annex 5, Part 3. Monitoring of emissions • Decision (EU) 2021/2326 (BAT 4)

Indicator	Monitored parameters	Frequency	Legislative acts/ Applicable standards
			•EN standards for continuous measurement EN 15267 Air quality. Certification of automated measuring systems; EN 14181 Stationary source emissions. Quality assurance of automated measuring systems
	CO	Continuous	•Law 278/2013, Annex 5, Part 3. Monitoring of emissions •Decision (EU) 2021/2326 (BAT 4) •EN standards for continuous measurement EN 15267 Air quality. Certification of automated measuring systems; EN 14181 Stationary source emissions. Quality assurance of automated measuring systems
	NH ₃ in air when SCR is used	Continuous	•Decision (EU) 2021/2326 (BAT 4) •Generic EN standards
Air emissions auxiliary steam boiler Rated Pt	NO _x	Periodically, every 3 years (rated Pt < 20 MWt) or Annually (rated Pt >20 MWt)	•Law 188/2018 on the limitation of emissions of certain pollutants into the air from medium combustion plants, Annex 3
	CO	Periodically, every 3 years (rated Pt < 20 MWt) or Annually (rated Pt >20 MW)	•Law 188/2018 on the limitation of emissions of certain pollutants into the air from medium combustion plants, Annex 3
Air quality monitoring (immissions) at the boundary of the premises	NO _x	Annually or at the request of APM Hunedoara	•The concentrations of monitored polluting substances will be compared with the limit values/critical levels, the assessment thresholds provided by Law 104/2011 on ambient air quality
	NO ₂	Annually or at the request of APM Hunedoara	
	CO	Annually or at the request of APM Hunedoara	
	NH ₃	Annually or at the request of APM Hunedoara	
Process wastewater, rainwater, and conventionally clean water	pH	Weekly	•The monitored quality indicators will be compared with the limits provided in NTPA 001/2002
	Flowrate	Daily	
	Temperature	Weekly	
	Suspended matter	Weekly	
	Chemical oxygen demand	Monthly	

Indicator	Monitored parameters	Frequency	Legislative acts/ Applicable standards
	(COD-Cr)		
	Ammonia nitrogen (NH ₄ ⁺)	Monthly	
	Organic solvents extractables	Monthly	
	Petroleum products	Monthly	
	Residue filtered at 105 °C	Monthly	
Groundwater Indicators taken from RAM SE Deva	pH	Periodically** - at least upon the EIA review or at the request of APM Hunedoara	
	Sulphates (SO ₄ ²⁻)		
	Filter residue at 105 °C		
	Cadmium (Cd ²⁺)		
	Lead (Pb ²⁺)		
	Mercury (Hg ²⁺)		
	Arsenic (As)		
	COD-Cr		
	Chlorides (Cl ⁻)		
Soil, within the plant premises, the wastewater treatment plant area	During demolition - total oil hydrocarbons, quarterly, at a depth of 5 cm In RAM SE Deva - Heavy metals (Cd, Co, Cu, As, total Cr, Mn, Ni, Pb, Zn, SO ₄)	Periodically** - at least upon the EIA review or at the request of APM Hunedoara	•MAPPM Order 756/1997 approving the Regulation on environmental pollution assessment
Noise	Measurement of the noise level at the boundary of the premises	Once per year	•The noise level monitored at the boundary of the premises will be compared with the provisions of STAS 10009/2017
Waste	Records of generated waste	Monthly	•GD 856/2002 on waste management records, as amended and supplemented

Note:

* if the flue-gas sample is dried before analysis, it is not necessary to continuously measure the water vapor content of the flue-gases;

**before commissioning, there must be carried out determinations regarding the soil and groundwater on the site in order to assess the baseline situation (according to Article 22 of *Law 278/2013 on industrial emissions*). Depending on the initial state of contamination of the soil and groundwater and the conditions of future use of the site (the operation of the gas fuel combined cycle power plant), there will be established the method for this monitoring over time, in order to highlight the evolution of the monitored parameters.

IX. JUSTIFICATION OF THE CLASSIFICATION OF THE PROJECT, AS APPROPRIATE, UNDER THE PROVISIONS OF SOME NATIONAL LEGAL ACTS TRANSPOSING COMMUNITY LEGISLATION

The specific regulations, relevant for carrying out the works provided for by the project, are the following:

- GEO 195/2005 on environmental protection, as amended and supplemented;
- Law 292/2018 on the assessment of the impact of certain public and private projects on the environment;
- Law 278/2013 on industrial emissions, as amended and supplemented;
- Commission Implementing Decision (EU) 2021/2326 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU, for large combustion plants;
- Law 188/2018 on the limitation of emissions of certain pollutants into the air from medium combustion plants;
- Law 104/2011 on ambient air quality;
- Water Law 107/1996, as amended and supplemented;
- GD 188/2002 approving certain rules on the conditions for the discharge of wastewater into the aquatic environment, as amended and supplemented - NTPA 001/2002 Regulation on establishing the pollutant loading limits of industrial and urban wastewater when discharged into natural receivers;
- MAPPM Order 756/1997 approving the Regulation on environmental pollution assessment;
- Law 59/2016 on the control of major accident hazards involving dangerous substances;
- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
- GEO 92/2021 on the storage of waste, as amended and supplemented;
- GD 856/2002 on waste management records;
- Order 119/2014 approving hygiene and public health standards on the living environment of the population;
- STAS 10009/2017 – Urban Acoustics;
- Law on occupational health and safety 319/2006 and the General occupational safety rules;
- GD 300/2006 on the minimum health and safety requirements for temporary or mobile construction sites, as amended and supplemented;
- GD 493/2006 on the minimum health and safety requirements for the exposure of workers to noise generated risks;
- GD 1756/2006 on limiting the noise emission in the environment by equipment for use outdoors;
- Law 307/2006 on protection against fire.

X. WORKS REQUIRED FOR THE CONSTRUCTION SITE ORGANISATION

The economic operator to be selected by public tender to execute the works is responsible for the provision of machinery, means of transport, workforce, the procurement of equipment, raw materials, materials, fuels, energy, the construction site organisation, the management of the waste generated at this stage.

X.1 Construction site organisation and localisation

When establishing the construction site organisation, there will be considered the reduction to the minimum of the required covered surfaces, by sizing the works strictly at the level of ensuring the execution plan of the proposed project, directing, and concentrating the activity in the targeted perimeter and using minimal areas occupied by storage.

The construction site organisation is temporary, it will only operate during the execution period, and it will be decommissioned at the end of the works, when the contractor will release the land areas used for the construction site organisation and will ensure their cleaning, returning them to their previous use.

The construction site works will be organised in the available existing spaces (established by mutual agreement with the beneficiary), in compliance with the legislation in force, so as not to harm the natural or human environment. The following objects will be located and arranged within the construction site organisation premises: office containers, toilets, workshop and warehouses, material storage areas, auxiliary areas.

The equipment and materials will be stored in the construction site in an orderly manner, avoiding their damage and depreciation before putting them in place. As a rule, the equipment and materials necessary for the execution and purchased by the contractor will be stored until putting them in place at its production base. The contractor's work points will be provided with utilities, with the consent of the beneficiary and depending on the specific conditions of the area, through temporary connections to existing networks or own sources.

During the construction-assembly works, the builders and fitters will be instructed to strictly comply with the occupational safety and fire prevention and firefighting measures and rules specific to the construction-assembly activity.

The schedule of execution and acceptance of the works will be drawn up by the contractor considering the technological execution flow, the contractor's equipment, and capacity for the simultaneous performance of the works. This schedule of execution and acceptance of the works will be annexed to the execution contract to be concluded between the beneficiary and the contractor.

During the works, all participating personnel will be equipped and will unconditionally use electro-insulating personal protective equipment (PPE), checked whenever the actual conditions of the construction site so require.

The beneficiary is legally entitled to check the observance by the seconded personnel with the occupational safety rules and, as the case may be, to apply measures to avoid injury to any persons participating in the work process, regardless of affiliation.

The personnel performing the works must be permanently supervised by the works manager and the team leader and meet the following conditions:

- to have the necessary professional qualification;
- to be trained, authorised, and verified in terms of occupational safety, and they can only be assigned tasks according to their own level of authorisation;

- to be equipped with means and technical devices appropriate for the job;
- the personnel performing the works must use the necessary equipment, especially the occupational safety one;
- to be equipped with individual means of protection appropriate for the cumulative risk of injury, specific to the workplace.

Demarcation of the work area to avoid affecting additional areas outside the project.

After the completion of the works, the contractor will remove all the remaining materials, and the land will be returned to its original state.

Compliance with the regulations in force on the activity on the construction site, corroborated with the compliance with the environmental regulations, will lead to a much lower impact on the environment.

X.2 The impact of the works on the environment, proposed measures

For the construction site organisation period, the potential impact on the environment is characterised as minor, with a local effect and limited to the period of execution of the project.

The construction site organisation will be set up so as not to harm the natural (environmental factors) or human environment. During the works, the contractor will ensure the environmental protection and the work safety conditions for the workers on the construction site by:

- arranging spaces for the temporary storage of materials;
- arranging spaces for the parking of machinery and means of transport;
- ensuring the operation of the construction site organisation components;
- providing utilities;
- ensuring hygienic-sanitary conditions for the personnel involved in the works;
- equipment for the protection of environmental factors (absorbent materials in order to limit the possible effects of accidental pollution with various petroleum products/mineral oils);
- waterproofed, covered spaces and containers for the selective collection of generated waste;
- occupational health and safety equipment;
- fire prevention and firefighting equipment;
- delimitation of the work area and the fencing thereof so as to eliminate any risk of environmental pollution;
- fencing.

In order to ensure the minimum measures necessary to prevent the risks of accidents, which may also have an impact on the environment, the following will be considered:

- the project works will be carried out by a company with experience in the field, with qualified personnel, authorised to carry out such works and trained for the specific activities to be performed on the construction site;

- both the beneficiary and the contractor are required to comply with the regulations on the performance of the works;
- the contractor will draw up a prevention and intervention plan for accidents, according to the regulations implementing occupational health and safety procedures and emergency situations procedures, for project-specific works;
- the construction site organisation and the places where the works will be carried out will be properly signposted, using standard ISO signs;
- all the works provided by the project will be performed only in observance with the occupational safety measures and fire prevention and firefighting rules specific to the operations and activities to be carried out.

X.3 Sources of pollutants and installations for the containment, discharge, and dispersion of pollutants in the environment during the construction site organisation

The sources of pollutants associated with the arrangement of the construction site organisation are:

- the particulate matter generated by the arrangement of the spaces for the construction site organisation, for the temporary storage of materials, for the parking of machinery and means of transport;
- the emissions of polluting substances related to the equipment used for the construction site organisation and during its operation;
- fine dust movement during the handling and transport of the materials used for the works;
- the noise and vibrations generated by the machinery used to carry out the proposed works.

Considering the specifics of the rehabilitation works, the use of installations for the containment, discharge, and dispersion of pollutants in the environment is not necessary.

X.4 Facilities and measures provided for the control of emissions of pollutants into the environment

No measures or facilities are considered necessary to control the emissions of pollutants into the environment.



XI. SITE RESTORATION WORKS UPON COMPLETION OF THE INVESTMENT, IN THE CASE OF ACCIDENTS AND/OR TERMINATION OF THE ACTIVITY, WHERE SUCH INFORMATION IS AVAILABLE

The project does not provide special works for the recovery/restoration of the site.

The works to be carried out are those of decommissioning the construction site organisation by the contractor and of clearing its site so as to allow the operation of the project facilities. The spaces set up for the temporary storage of non-hazardous waste, for the recovery thereof, will have to be cleared and restored, returning them to their previous use.

Aspects related to the prevention and response to accidental pollution

The events that can cause accidental pollution of environmental factors could be accidental leaks of fuels/lubricants and/or uncontrolled emissions from the machinery and/or means of transport used on the site, as a result of malfunctions, spills of substances and materials on the ground or as a result of improper waste storage.

To prevent accidental pollution, there will be strictly observed the measures provided in the project, as well as the rules and specific instructions in the field of construction. The measures that can be taken during the execution of the works, to prevent accidents and reduce the impact on the environment, are the following:

- personnel training regarding possible failures that may occur during the execution of the works;
- observance of the fire safety rules;
- observance of the inspection and repair procedures, and ensuring appropriate technical assistance for the performance thereof;
- periodic checks and maintaining all machinery and vehicles used in suitable technical conditions;
- compliance with environmental protection rules when carrying out specific activities;
- quick intervention in the case of accidental pollution to eliminate the causes and reduce the damage;
- collection of all accidental spills and ecological reconstruction of potentially polluted areas.

Aspects related to the closure/decommissioning/demolition of the installation

Any decisions related to the decommissioning of the MASS Mintia combined cycle gas turbine power plant will be brought to the attention of the authorities responsible for monitoring their operation, through written notices.

The partial or total decommissioning of the installations will begin only after obtaining the necessary authorisations and endorsements, as provided by law.

During the decommissioning works, there will be provided areas for sorting and storing the resulting waste by category, with the aim of recovery as much as possible through companies specialised in recycling. Waste that cannot be recycled will be disposed of through specialised companies. There will be provided access routes in the area of decommissioned installations and in the area of temporary storage of the resulting waste. The areas for the decommissioning, sorting and temporary storage of the generated waste will be organised and arranged in such a way as to prevent the occurrence of accidental pollution of environmental factors (air, water, soil) or the exceedance of the noise level permissible values.

The constructions will be demolished/dismantled by specialised and authorised companies, which provide evidence of having the qualified personnel and the equipment necessary to carry out such works.

The environmental restoration works proposed to be carried out at the end of the operation period will consider the legal provisions on the protection and restoration of the environment so that, at the end of the works, the impacted plots can be returned either to the original use or to another use established afterwards.

XII. DRAWINGS

Annex D - Schematic of the Technological Flow of the Power Plant

Annex E - Water Balance Schematic Diagrams

Annex F - Wastewater Schematic Diagrams

Annex H - MASS Mintia CCGT Layout Plan

Annex I - MASS Mintia CCGT Site Plan

XIII. FOR THE PROJECTS FALLING UNDER THE PROVISIONS OF ARTICLE 28 OF THE GOVERNMENT EMERGENCY ORDINANCE 57/2007 ON THE REGIME OF NATURAL PROTECTED AREAS, THE CONSERVATION OF NATURAL HABITATS, WILD FLORA AND FAUNA, APPROVED AS AMENDED AND SUPPLEMENTED BY LAW 49/2011, AS AMENDED AND SUPPLEMENTED

Not applicable.

In accordance with the *Initial Assessment Stage Decision 1202/16.02.2023 (Annex A)*, the project does not fall under the provisions of Article 28 of the Government Emergency Ordinance 57/2007 on the regime of natural protected areas, the conservation of natural habitats, wild flora and fauna, approved as amended and supplemented by Law 49/2011, as amended and supplemented.

XIV. FOR THE PROJECTS CARRIED OUT ON OR RELATED TO WATERS, THE REPORT WILL BE SUPPLEMENTED WITH THE FOLLOWING INFORMATION, TAKEN FROM THE UPDATED BASIN MANAGEMENT PLANS

This project is not carried out on water but uses water for the operation of the combined cycle gas turbine power plant, MASS Mintia CCGT, and for the servicing of buildings equipped with sanitary facilities. The quantities of water used will be regulated by the Water Management Authorisation to be issued for this project.

XIV.1 Location of the project

The site of the investment MASS Mintia combined cycle gas turbine power plant, Hunedoara County, is in the Mureş Hydrographic Basin, near the Mureş (*RORW4-1_B8 Mureş, as per Cerna - as per Dobra*), Herepeia (Bretelin) (*RORW4-1-124_B1 Herepeia (Bretelin)*) and Caian and tributaries (*RORW4-1-122_B1A Caian and tributaries*).

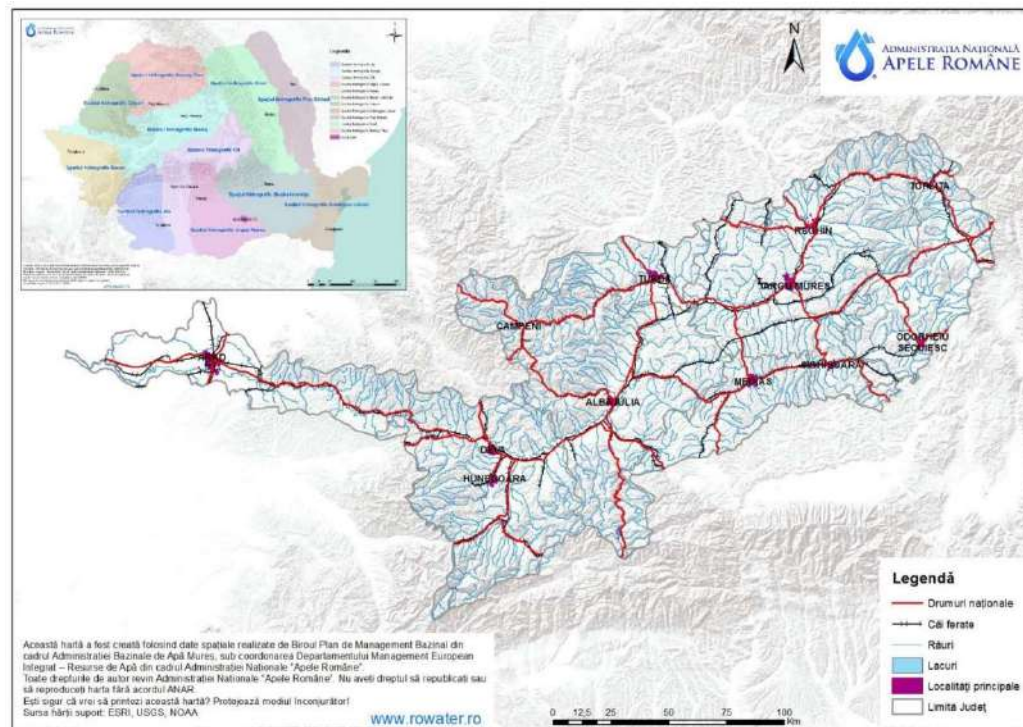


Figure 9 Mureș hydrographic basin

Source: Updated management plan of the Mureș hydrographic basin, the 3rd cycle 2022-2027

The *Mureș hydrographic basin* is located in the central and western part of the country, bordering to the north the Someș-Tisa hydrographic area and the Crișuri hydrographic area, to the west the Crișuri hydrographic area, the Banat hydrographic area and the border with Hungary, to the east the Siret hydrographic area and the Olt hydrographic basin, to the south the Banat hydrographic area, the Jiu hydrographic basin and the Olt hydrographic basin.

The total area of the Mureș hydrographic basin (including the Ier canal) is of 28,540 km², accounting for 11.97% of the country's surface. The hydrographic network includes 798 registered watercourses (of which 59 with areas smaller than 10 km²), with a total length of 10,861 km and an average density of 0.39 km/km². Of these, 713 watercourses met the criteria to be analysed within the Mureș River Basin Management Plan. On the territory of Romania, the Mureș River Basin includes the Mureș sub-basins with 179 coded tributaries and the Ier canal (without tributaries).

XIV.2 Specification of the ecological condition/ecological potential and chemical condition of the surface water body; for the groundwater body, the quantitative condition and the chemical condition of the water body must be specified

Surface water

The investment site MASS Mintia combined cycle gas turbine power plant, Hunedoara county, is neighboured by the following bodies of surface water:

- **Mures River**, which springs from Hășmașu Mare Mountains and flows into the Tisza River (the river marks the Romanian-Hungarian border over a length of 22.3 km) and has the following characteristics: watercourse length – 789 kilometres; catchment basin area – 30,332 km²; average flowrate – 186.38 m³/s.
- **Herepeia (Bretelin) River**, Mureș River tributary watercourse;
- **Caian River**, Mureș River tributary watercourse;

According to the data from the *Updated management plan of the Mureș hydrographic basin, the 3rd cycle 2022-2027*, the following bodies of water are located in the project area:

Table 10 Surface water bodies in the project area

Item	Surface water body code	Water body	Water body category
1	RORW4-1_B8	Mureș, as per Cerna - as per Dobra	RW
2	RORW4-1-124_B1	Herepeia (Bretelin)	RW
3	RORW4-1-122_B1A	Caian and tributaries	RW

*RW - natural river/CAPM river/artificial river

At the level of the Mureș River basin, 532 water bodies (415 natural and 117 heavily modified/artificial) were analysed and characterised in terms of ecological condition/ecological potential and chemical condition, of which:

- 352 water bodies (accounting for 84.82 % of the natural water bodies, respectively 66.17 % of the 532 water bodies) are in good ecological condition and 72 water bodies (representing 61.54 % of highly modified/artificial water bodies, respectively 13.53% of the 532 water bodies) have good ecological potential;
- 411 natural water bodies (accounting for 99.04 % of the natural water bodies and 77.26 % of the total surface water bodies) are in good chemical condition and 108 heavily modified/artificial water bodies (accounting for 92.31 % of heavily modified/artificial water bodies and 20.30 % of total surface water bodies) are in good chemical condition.

Following the analysis carried out at the level of the Mureș hydrographic basin of the 532 surface water bodies, there was found that 78.57% of the water bodies feature a good global condition, as determined on the basis of the most unfavourable situation between the ecological condition/ecological potential and the chemical condition (applying the “one out - all out” principle).

The tables below show the ecological condition, respectively the chemical condition of the water bodies in the area of the site of this project:

Table 11 Ecological condition of surface water bodies in the project area

Water body	Water body category	Water body typology code	Surface water body code	Condition/Potential (C/P)	Ecological condition/ecological potential category
Mureș, as per Cerna - as per Dobra	RW	RO05CAPM	RORW4-1_B8	P	3
Herepeia (Bretelin)	RW	RO18	RORW4-1-124_B1	C	3

Water body	Water body category	Water body typology code	Surface water body code	Condition/Potential (C/P)	Ecological condition/ecological potential category
Caian and tributaries	RW	RO18	RORW4-1-122_B1A	C	2

“Water body category” column: RW natural river/CAMP river/artificial river

“Condition/Potential” column: S – ecological condition; P – ecological potential

“Ecological condition/ecological potential” column: 1- very good ecological condition; 2- good ecological condition/maximum and good potential; 3- moderate ecological condition/moderate potential, 4- poor ecological condition/poor potential; 5- bad ecological condition/bad potential

Table 12 Chemical condition of the surface water body in the project area

Hydrographic basin code	Water body	Surface water body code	Water category	Chemical condition	Chemical condition assessment method
RO7	Mureş, as per Cerna - as per Dobra	RORW4-1_B8	RW	2	Monitoring
RO7	Herepeia (Bretelin)	RORW4-1-124_B1	RW	2	Risk analysis
RO7	Caian and tributaries	RORW4-1-122_B1A	RW	2	Risk analysis

“Water category” column: RW = river,

“Chemical condition” column: 2 = good

Groundwater

The investment site MASS Mintia combined cycle gas turbine power plant, Hunedoara county, is neighboured by the following bodies of groundwater:

- **Groundwater body ROMU07 Mureş River Corridor (Alba Iulia-Lipova)**

The groundwater body ROMU07 Mureş River Corridor (Alba Iulia-Lipova) is porous and permeable, located in the alluvial deposits, of Quaternary age, of the Mureş River meadow, from downstream of Alba Iulia to Lipova, and on its tributaries (Secaş, Sebeş, Sibişel). These deposits are developed on both banks of the Mureş River and are composed of gravels and sands, with thicknesses of 10-24 m, intercepted down to 15-26 m.

The hydrostatic level is at depths of 2-3 m, and the depths are less than 2 m in the marginal areas of the meadow.

From a chemical point of view, the waters can be of bicarbonate-calcium, calcium sulphate, or chlor-alkali type.

The water body is mainly supplied by precipitation, the effective infiltration ranging between 31.5 and 63 mm/year. The aquifer layer is drained by the hydrographic network, without excluding the supply by the river during flood periods.

In terms of the global protection degree, the groundwater body falls into the good and medium protection classes.

A very large proportion of the surface of this groundwater body is occupied by agricultural land (72%).

▪ **Groundwater body ROME12 Bretelin (Poiana Ruscă Mountains)**

The groundwater body *ROME12 Bretelin (Poiana Ruscă Mountains)*, of mixed type (phreatic + depth) is accumulated in the Upper Cretaceous deposits, which are represented by conglomerates, sandstones, limestones, and marlstones which allow, on the fissure zones, an underground circulation of water. These deposits can be covered or not by soils or Badenian deposits (clays, gravels, clayey marls, limestones, tuffs).

The effective infiltration is between 220.5 and 315 mm/year, the degree of protection being unsatisfactory or very unsatisfactory. Local aquifer networks are highlighted by springs with flowrates of sub-unit values in general.

From a chemical point of view, the water of the spring is of magnesium calcium bicarbonate type.

A large proportion of the surface of this groundwater body is occupied by forests (59%), the rest being cultivated land (34%) and artificial surfaces (localities, industrial areas, 7%).

According to the data from the Updated management plan of the Mureş hydrographic basin, the 3rd cycle 2022-2027, the characteristics of the groundwater bodies are presented in the table below.

Table 13 Characteristics of groundwater bodies in the project area

Code/name	Area, km ²	Geological/hydrogeological characterisation			Water use	Condition	
		Type	Under pressure	Cover layer thickness (m)		Quality	Quantity
ROMU07 Mureş River Corridor (Alba Iulia-Lipova)	852	P	No	variable	PO, I, A	B	B
ROMU12 Bretelin (Poiana Ruscă Mountains)	46	F	Mixed	0/variable	-	B	B

Predominant type: P-porous; K-karstic; F-fissured.

Under pressure: Yes/No/Mixed.

Cover layers: the thickness in meters of the cover package.

Water use: PO - population water supply; IR - irrigation; I industry; P - fish farming; Z – animal husbandry; A - agriculture; AL - other uses

Qualitative and quantitative condition Good (B)/Poor (S)

According to the data from the *Updated management plan of the Mureş hydrographic basin, the 3rd cycle 2022-2027*, after applying the groundwater bodies assessment method, there were found the following aspects:

- the **ROMU07 (Mureş River Corridor)** groundwater body is declared as being in **good chemical condition**; the results of the chemical tests showed local exceedances of threshold values for the chloride and SO₄ indicators;
- the **ROMU12 (Bretelin - Poiana Ruscă Mountains)** groundwater body is declared as being in **good condition from a qualitative point of view**.

XIV.3 Specification of the environmental objective(s) for each identified body of water, stating the exceptions applied and the related deadlines, as appropriate

For surface waters in terms of ecological condition, the environmental objectives are represented by the “good ecological condition” for natural water bodies and the “good ecological potential” for heavily modified and artificial water bodies.

According to the data in the *Updated management plan of the Mureș hydrographic basin, the 3rd cycle 2022-2027*, relating to the environmental objectives - good ecological condition and good chemical condition, the following are mentioned:

- *Good ecological condition:*
 - ✓ 424 water bodies (79.7%) of the total water bodies achieve the environmental objective of good ecological condition/good ecological potential in 2021;
 - ✓ 450 water bodies (84.6%) of the total water bodies will achieve the environmental objectives (good ecological condition/good ecological potential) in 2027;
 - ✓ 82 water bodies (15.4%) of the total water bodies will achieve the environmental objectives after 2027, generated by natural conditions.
- *Good chemical condition:*
 - ✓ 519 water bodies (97.56 %) of the total water bodies achieve the environmental objective of good chemical condition by 2021;
 - ✓ 522 water bodies (98.12 %) of the total water bodies will achieve the environmental objectives (good chemical condition) by 2027;
 - ✓ 10 water bodies (1.88%) of the total water bodies will achieve the environmental objectives after 2027, generated by natural conditions.

According to the data from the *Updated management plan of the Mureș hydrographic basin, the 3rd cycle 2022-2027*, the chemical condition of the bodies of water RORW4-1_B8 Mureș, as per Cerna - as per Dobra), Herepeia (Bretelin) (RORW4-1-124_B1 Herepeia (Bretelin)) and Caian and tributaries (RORW4-1-122_B1A Caian and tributaries) is good.

In terms of ecological condition/potential, the water bodies RORW4-1_B8 Mureș, as per Cerna - as per Dobra) and Herepeia (Bretelin) (RORW4-1-124_B1 Herepeia (Bretelin)) feature moderate ecological condition/moderate potential and the Caian body of water and its tributaries (RORW4-1-122_B1A Caian and tributaries) is in good ecological condition.

The environmental objectives for the groundwater bodies condition are the good chemical condition and the good qualitative condition of the groundwater bodies. The environmental objectives of “good condition” from a chemical point of view are defined by the threshold values established at the level of groundwater bodies in Romania, approved by Order of the Minister 621 of 7 July 2014 on the approval of threshold values for groundwaters in Romania.

For the **ROMU07 (Mureș River Corridor)** and **ROMU12 (Bretelin - Poiana Ruscă Mountains)** groundwater bodies, according to the data from the *Updated management plan of the Mureș hydrographic basin, the 3rd cycle 2022-2027*, the deadline for meeting the good quantitative condition and good chemical condition environmental objectives was 2020.

ANNEXES

ANNEX A



AGENȚIA PENTRU PROTECȚIA MEDIULUI HUNEDOARA

DECIZIA ETAPEI DE EVALUARE INIȚIALĂ

Nr. 1202 / 16.02.2023

Ca urmare a solicitării depuse de **MASS GLOBAL ENERGY ROM S.R.L.**, cu sediul în București, Sector 1, str. Emanoil Porumbaru nr. 82 - 84, et. 1, ap. 4, pentru proiectul "Demolare construcții de pe amplasamentul propus și construire Centrală Electrică "MASS Mintia", în satul Mintia, comuna Vețel, județul Hunedoara" - Etapa de construire Centrală Electrică "MASS Mintia", propus a fi amplasat în comuna Vețel, satul Mintia, str. Șantierului nr. 1, județul Hunedoara, înregistrată la Agenția pentru Protecția Mediului Hunedoara cu nr. 1202 / 15.02.2023,

- în urma analizării documentației depuse, a localizării amplasamentului în planul de urbanism și în raport cu poziția față de arii protejate, zone-tampon, monumente istorice sau arheologice, zone cu restricții de construit, zonă costieră;
- având în vedere că:
 - proiectul propus intră sub incidența Legii nr. 292/2018 privind evaluarea impactului anumitor proiecte publice și private asupra mediului, fiind încadrat în anexa nr. 2, la pct. 3 lit. a);
 - proiectul propus nu intră sub incidența art. 28 din O.U.G. nr. 57/2007 privind regimul ariilor naturale protejate, conservarea habitatelor naturale, a florei și faunei sălbatice, aprobată cu modificări și completări prin Legea nr. 49/2011, cu modificările și completările ulterioare;
 - proiectul propus intră sub incidența prevederilor art. 48 și 54 din Legea apelor nr. 107/1996, cu modificările și completările ulterioare;

Agenția pentru Protecția Mediului Hunedoara decide:

Necesitatea declanșării procedurii de evaluare a impactului asupra mediului pentru proiectul "Demolare construcții de pe amplasamentul propus și construire Centrală Electrică "MASS Mintia", în satul Mintia, comuna Vețel, județul Hunedoara" - Etapa de construire Centrală Electrică "MASS Mintia".

Pentru continuarea procedurii titularul va depune:

- a) memoriul de prezentare completat conform conținutului-cadru prevăzut în anexa nr. 5E la Legea nr. 292/2018;
- b) avizul de gospodărire a apelor emis de autoritatea competentă din domeniul gospodăririi apelor;
- c) dovada publicării anunțului privind depunerea solicitării de emitere a acordului de mediu (anexa nr. 5G la Legea nr. 292/2018);
- e) dovada achitării tarifului aferent etapei de încadrare.

DIRECTOR EXECUTIV
Viorica Georgeta BARAB



Șef Serviciu AAA: Lucia Dolina COSTINAS

Redactat: Viorica TODEA



AGENȚIA PENTRU PROTECȚIA MEDIULUI HUNEDOARA

Deva, strada Aurel Vlaicu nr.25, județul Hunedoara, cod 330007

E-mail: office@apmhd.anpm.ro; Tel. 0254/215445; Fax 0254/212252

Operator de date cu caracter personal, conform Regulamentului (UE) 2016/679

ANNEX B



Asociația Română de Mediu 1998

Comisia de atestare a persoanelor fizice și juridice care elaborează studii de mediu



Certificat ISO14001 nr. 205340/A/0001/UK/Ro



CERTIFICAT DE ATESTARE

Seria RGX nr. 300/07.07.2022

Valabil până la data de 07.07.2025 cu respectarea condițiilor înscrise pe verso⁽¹⁾

Se atestă doamna **Claudia Eudora TOMESCU** cu domiciliul în București, Bd. Lacul Tei, nr.107, bl. 14, ap. 141, CNP 2630122400232, ca **expert atestat - nivel principal** pentru elaborarea următoarelor studii de mediu în domeniile de atestare acordate de Comisia de atestare conform Procesului verbal nr. 25 din data 07.07.2022: **RIM-3, RIM-11b, RIM-11c; RA-3, RA-5; RM-3, RM-11b, RM-11c, RM-13b; EGCA; EGSC-**

Președintele Comisiei de atestare,

prof. univ. dr. **Rodica STĂNESCU**



TIPUL DE STUDII: (RIM) Raport privind impactul asupra mediului; (RA) Raport de amplasament; (RM) Raport de mediu; (ES) Raport de securitate; (EM) Bilant de mediu; (EA) Studiu de evaluare adecvată; (EGCA) Evaluarea și gestionarea calității aerului; (EGZA) Evaluarea și gestionarea zgomotului ambiant; (EGSC) Evaluarea și gestionarea schimbărilor climatice; (MES) Monitorizarea biodiversității

DOMENII DE ATESTARE: (1) Agricultură, silvicultură, piscicultură; (2) Industrie extractivă; (3) Industrie energetică; (4) Energie nucleară (5) Producerea și prelucrarea metalelor; (6) Industria metalelor și a materialelor de construcții; (7) Industria chimică; (8) Industria alimentară; (9) Industria textilă, a pielăriei, a lemnului și hârtiei; (10) Industria cauciucului, fabricarea și tratarea produselor pe bază de elastomeri; (11-a) Infrastructura de transport (aerian, rutier, feroviar, naval - inclusiv porturi); (11-b) Infrastructura de gestionare a deșeurilor; (11-c) Infrastructura de gospodărire a apelor; (12) Turism și agrement; (13-a) Alte domenii - telecomunicații; (13-b) Alte domenii în care se dezvoltă proiectele enumerate la pct. 11 din anexa nr. 2 la Legea 292/2018

ARM
1998



Asociația Română de Mediu 1998

Comisia de atestare a persoanelor fizice și juridice care elaborează studii de mediu

Certificat ISO14001 nr. 205340/A/0001/UK/Ro



CERTIFICAT DE ATESTARE

Seria RGX nr. 288/23.06.2022

Valabil până la data de 23.06.2025 cu respectarea condițiilor înscrise pe verso⁽¹⁾

Se atestă doamna **Irene Roxana SAMOILĂ** cu domiciliul în București, Str. Lt. Sachelarie Visarion, nr. 14, bl. 117C, sc. B, et. 3, ap. 57, sector 2, CNP 2680802424520, ca **expert atestat - nivel principal** pentru elaborarea următoarelor studii de mediu în domeniile de atestare acordate de Comisia de atestare conform Procesului verbal nr. 24 din data 23.06.2022: **RIM-3, RIM-11b, RIM-11c; RA-3, RA-5; RM-3, RM-11c, RM-13b; EGCA; EGSC**-----

Președintele Comisiei de atestare,

Ioan GHERHEȘ



TIPUL DE STUDIU: (RIM) Raport privind impactul asupra mediului; (RA) Raport de amplasament; (RM) Raport de mediu; (RS) Raport de securitate; (RM) Bilant de mediu; (EA) Studiu de evaluare adecvată; (EGCA) Evaluarea și gestionarea calității aerului; (EGZA) Evaluarea și gestionarea zgomotului ambiental; (EGSC) Evaluarea și gestionarea schimbărilor climatice; (MB) Monitorizarea biodiversității

DOMENII DE ATESTARE: (1) Agricultură, silvicultură, piscicultură; (2) Industrie extractivă; (3) Industrie energetică; (4) Energie nucleară (5) Producerea și prelucrarea metalelor; (6) Industria minereilor și a materialelor de construcții; (7) Industrie chimică; (8) Industrie alimentară; (9) Industrie textilă, a pielăriei, a lemnului și hârtiei; (10) Industrie cauciucului; fabricarea și tratarea produselor pe bază de elastomeri; (11-a) Infrastructura de transport (aerian, rutier, feroviar, naval - inclusiv porturi); (11-b) Infrastructura de gestionare a deșeurilor; (11-c) Infrastructura de gospodărire a apelor; (12) Turism și agrement; (13-a) Alte domenii - telecomunicații; (13-b) Alte domenii - domenii în care se dezvoltă proiectele enumerate la pct. 11 din anexa nr. 2 la Legea 292/2018

ANNEX C



ROMÂNIA
JUDEȚUL HUNEDOARA
PRIMĂRIA COMUNEI VEȚEL
Vețel, str. Mihai Eminescu, nr. 256
jud. Hunedoara, cod 337525
Tel.: 0254 237 733; Fax: 0254 237 847
E-mail: contact@primaria-vetel-hd.ro



CERTIFICAT DE URBANISM

Nr. 2 din 3 Februarie 2023

În scopul elaborării documentației pentru autorizarea executării lucrărilor privind

„Demolare construcții de pe amplasamentul propus și construire Centrală Electrică ”MASS Mintia”, în satul Mintia, comuna Vețel, județul Hunedoara”

Urmare a cererii adresate de Karim Dalawer, cu domiciliul în municipiul București, str. Emanoil Porumbaru, Nr. 82-84 sc. 1, apt. 4, în calitate de reprezentant al MASS GLOBAL ENERGY ROM S.R.L. înregistrată cu nr. 514 din 27 Ianuarie 2023.

Pentru imobilul – teren și construcții - situat în județul Hunedoara, comuna Vețel, satul Mintia, strada Șantierului, nr. 1.

Sau identificat prin Carte Funciară nr. 63472 Vețel și extras de plan cadastral, emis de Oficiul de Cadastru și Publicitate Imobiliară Hunedoara, Biroul de Cadastru și Publicitate Imobiliară Deva.

În temeiul reglementărilor documentației de urbanism 283/2015 fază PUG, aprobat prin Hotărârea Consiliului Local al Comunei Vețel nr. 20/2020. În conformitate cu prevederile Legii nr.50/1991, privind autorizarea executării lucrărilor de construcții, republicată, cu modificările și completările ulterioare,

SE CERTIFICĂ

1.REGIMUL JURIDIC – Imobilul (teren și construcții) este situat în intravilanul localității Mintia, proprietate a MASS GLOBAL ENERGY ROM S.R.L. Asupra imobilului se notează: ”interdicțiile de dezmembrare, demolare și înstrăinare până la data obținerii autorizațiilor de construire pentru noile instalații, precum și obligația de finalizare, până la data de 31.12.2026, a investiției de realizare a unei capacități energetice cu ciclu combinat nou, cu o putere instalată de minim 1290 MW în bandă pe gaz și energie regenerabilă, din care cel puțin 800 MW generați, în favoarea SOCIETATEA COMPLEXUL ENERGETIC HUNEDOARA S.A.”

Imobilul se află în situl arheologic Micia – Vețel înscris pe Lista Monumentelor Istorice 2015 cu codul HD-I-s-A-03214. Imobilul se află în zona de vătămări ireversibile în conformitate cu planul cu zonele de compatibilitate întocmit conform Ordinului nr. 3710/1212/99 din 2017.

2.REGIMUL ECONOMIC - Folosința actuală a imobilului este: ”CURȚI CONSTRUCȚII”. Destinația terenului potrivit P.U.G-ului este : ”Zonă unități industriale și depozite”.

3.REGIMUL TEHNIC

1. Potrivit reglementărilor din Regulamentul local de urbanism aferent Planului Urbanistic General aprobat prin HCL nr. 20/2020. Utilizarea funcțională conform art. 4, 5, și 6 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr. 20/2020.

2. Obligații/constrângeri de natură urbanistică ce vor fi avute în vedere la proiectarea investiției:

- Regimul de aliniere a terenurilor și construcțiilor față de drumurile publice adiacente, și față de căile ferate -conform art. 19 și 20 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr. 20/2020: .
- Reguli de amplasare și retragerile și distanțele minime obligatorii la amplasarea construcțiilor conform art. 7, 8, 9, 10 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr. 20/2020.
- Elemente privind volumetria și/sau aspectul general al clădirilor în raport cu imobilele învecinate conform art. 13, 14 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr. 20/2020.
- Înălțimea maximă admisă-conform art.13 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr. 20/2020.
- Procentul maxim de ocupare a terenului (POT) maxim admis de 70%, și coeficientul de utilizare a terenului (CUT) - conform art. 22 și 23 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr. 20/2020.

3. Echiparea cu utilități existente-conform art. 15 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr 20/2020.

4. Circulația pietonilor și a autovehiculelor, accesele auto și parcajele necesare în zonă, potrivit studiilor și proiectelor anterior aprobate, se va realiza conform art. 11, 12 din Regulamentul local de urbanism aprobat prin HCL al Comunei Vețel nr. 20/2020.

Prezentul certificat de urbanism poate fi utilizat, în scopul declarat pentru autorizarea executării și elaborare documentații SF, DTAD, DTAC și DTOE, pentru

„Demolare construcții de pe amplasamentul propus și construire Centrală Electrică ”MASS Mintia”, în satul Mintia, comuna Vețel, județul Hunedoara”

La imobilul situat în județul Hunedoara, comuna Vețel, satul Mintia, str. Santierului, Nr. 1, înscris în Carte Funciară nr. 63472.

Documentațiile fază DTAD, DTAC și DTOE vor fi elaborate cu respectarea conținutului cadru prevăzut în Anexa nr. 1 la Legea nr.50/1991, republicată, cu modificările și completările ulterioare, de colective tehnice de specialitate, însoțite și semnate de cadre tehnice cu pregătire superioară din domeniul arhitecturii, urbanismului, construcțiilor și instalațiilor pentru construcții, potrivit art. 9 din Legea nr. 50/1991 republicată cu modificările și completările ulterioare. Documentațiile pentru autorizarea executării lucrărilor de construcții vor cuprinde documentele prevăzute de art.7 alin (1) din Legea nr.50/1991, republicată, cu modificările și completările ulterioare.

**CERTIFICATUL DE URBANISM NU TINE LOC DE
AUTORIZATIE DE CONSTRUIRE/ DESFIINTARE
SI NU CONFERA DREPTUL DE A EXECUTA LUCRARI DE CONSTRUCTII**

4.OBLIGATII ALE TITULARULUI CERTIFICATULUI DE URBANISM:

În scopul elaborării documentației pentru autorizarea executării lucrărilor de construcții solicitantul se va adresa autorității competente pentru protecția mediului : - Agenția pentru Protecția Mediului Hunedoara, municipiul Deva, str. A. Vlaicu nr. 25 întrucât terenul se află în zona de compatibilitate teritorială în conformitate cu planul cu zonele de compatibilitate întocmit conform Ordinului nr. 3710/1212/99 din 2017.

În aplicarea Directivei Consiliului 85/337/CEE (Directiva EIA) privind evaluarea efectelor anumitor proiecte publice și private asupra mediului, modificată prin Directiva Consiliului 97/11/CE

si prin Directiva Consiliului si Parlamentului European 2003/35/CE privind participarea publicului la elaborarea anumitor planuri si programe in legatura cu mediul si modificarea, cu privire la participarea publicului si accesul la justitie, a Directivei 85/337/CEE si a Directivei 96/61/CE, prin certificatul de urbanism se comunica solicitantului obligatia de a contacta autoritatea teritoriala de mediu pentru ca aceasta sa analizeze si sa decida, dupa caz, incadrarea/neincadrarea proiectului investitiei publice/private in lista proiectelor supuse evaluarii impactului asupra mediului.

În aplicarea prevederilor Directivei Consiliului 85/337/CEE, procedura de emitere a acordului de mediu se desfasoara dupa emiterea certificatului de urbanism , anterior depunerii documentatiei pentru autorizarea executarii lucrarilor de constructii la autoritatea administratiei publice competente.

În vederea satisfacerii cerintelor cu privire la procedura de emitere a acordului de mediu, autoritatea competenta pentru protectia mediului stabileste mecanismul asigurarii consultarii publice, centralizarii obtinerii publicului si al formularii unui punct de vedere oficial cu privire la realizarea investitiei in acord cu rezultatele consultarii publice.

În aceste conditii:

Dupa primirea prezentului Certificat de urbanism , **TITULARUL** are obligatia sa se prezinte la autoritatea competenta pentru protectia mediului in vederea evaluarii initiale a investitiei si stabilirea necesitatii evaluarii efectelor acesteia asupra mediului. In urma evaluarii initiale a investitiei se va emite actul administrativ al autoritatii competente pentru protectia mediului.

In situatia in care autoritatea competenta pentru protectia mediului stabileste necesitatea evaluarii efectelor investitiei asupra mediului solicitantul are obligatia de a notifica acest fapt Primarului Comunei Vetel cu privire la mentinerea cererii pentru autorizarea executarii lucrarilor de constructii.

In situatia in care, dupa emiterea certificatului de urbanism ori pe parcursul derularii procedurii de evaluare a efectelor investitiei asupra mediului, solicitantul renunta la intentia de realizare a investitiei, acesta are obligatia de a notifica acest fapt Primarului Comunei Vetel.

5. CEREREA DE EMITERE A AUTORIZATIEI DE CONSTRUIRE va fi insotita de urmatoarele documente:

- a) Certificatul de urbanism (copie)
- b). Dovada titlului asupra imobilului ; teren si/sau constructii, sau dupa caz extrasul de plan cadastral actualizat la zi sau extrasul de carte funciara de informare actualizat la zi (copie legalizata)
- c). Proiectul pentru autorizare a executării lucrărilor de construcții, după caz (2 exemplare originale):

■ **DTAC**

■ **DTOE**

■ **DTAD**

d) Avizele si acordurile stabilite prin certificatul de urbanism (copii)

d1 *Avize si acorduri privind utilitatile urbane si infrastructura (copie):*

- | | |
|-----------------------------------|---------------------------------|
| ■ alimentare cu apa | □ canalizare |
| ■ alimentare cu energie electrica | □ telefonie |
| □ salubritate | □ transport urban |
| ■ gaze naturale Transgaz | □ alimentare cu energie termica |

Alte avize si acorduri :

- Directia Județeană pentru Cultură Hunedoara;

- Inspectoratul Pentru Situații De Urgență „Iancu De Hunedoara” al Județului Hunedoara privind interdicțiile de dezmembrare, demolare și înstrăinare.

- Acordul de la SOCIETATEA COMPLEXUL ENERGETIC HUNEDOARA S.A. privind interdicțiile de dezmembrare, demolare și înstrăinare notate in extrasul cadastral.

- Referatele de verificare a proiectului, în conformitate cu legislația în vigoare, întocmite de verificatori de proiecte atestați de Ministerul Dezvoltării Regionale și Administrației Publice aleși de investitor, cu respectarea prevederilor Legii nr. 10/1995, republicată, cu modificările și completările ulterioare, privind calitatea în construcții și ale Ordinului nr. 2264/2018, pentru aprobarea Procedurii privind atestarea verificatorilor de proiecte și a experților tehnici în construcții .

- d.2 Avize si acorduri privind
- prevenirea si stingerea incendiilor
 - protectia mediului

- protectia civilă
- sănătatea populației

d.3. Avizele/acordurile specifice ale administratiei publice centrale si/sau ale serviciilor descentralizate ale acestora (copie):

- Inspectoratul Județean în Construcții Hunedoara;
- Avizul Ministerului Apărării Naționale – Statul Major;
- Avizul Serviciilor de Telecomunicații Speciale;
- Oficiul de Cadastru și Publicitate Imobiliară Hunedoara, pentru recepția suportului topografic.

d.4. Studii de specialitate (1 exemplar original) : - Studiu geotehnic

e) Punctul de vedere/Actul administrativ al autorității competente pentru protecția mediului (copie):
nu este cazul

f) Documentele de plata ale urmatoarelor taxe (copie):

Prezentul certificat de urbanism are valabilitate de 24 luni de la data emiterii.



SECRETAR GENERAL AL COMUNEI,
Zasloți Aurelian Dorel

PERSONA CU RESPONSABILITATE ÎN DOMENIUL
AMENAJĂRII TERITORIULUI ȘI URBANISMULUI,
Szabo Rozalia

Taxa în valoare de 1628 lei achitată cu chitanța nr. _____.2023

Prezentul certificat de urbanism a fost transmis solicitantului direct/prin poștă la data de _____

În conformitate cu prevederile Legii nr. 50/1991 privind autorizarea executării lucrărilor de construcții, republicată, cu modificările și completările ulterioare.

SE PRELUNGESTE VALABILITATEA CERTIFICATULUI DE URBANISM

de la data de până la data de _____ pana la data de _____

După această dată, o nouă prelungire a valabilității, nu este posibilă, solicitantul urmând să obțină, în condițiile legii, un alt certificat de urbanism,

PRIMAR

SECRETAR

PERSONA CU RESPONSABILITATE ÎN DOMENIUL
AMENAJĂRII TERITORIULUI ȘI URBANISMULUI

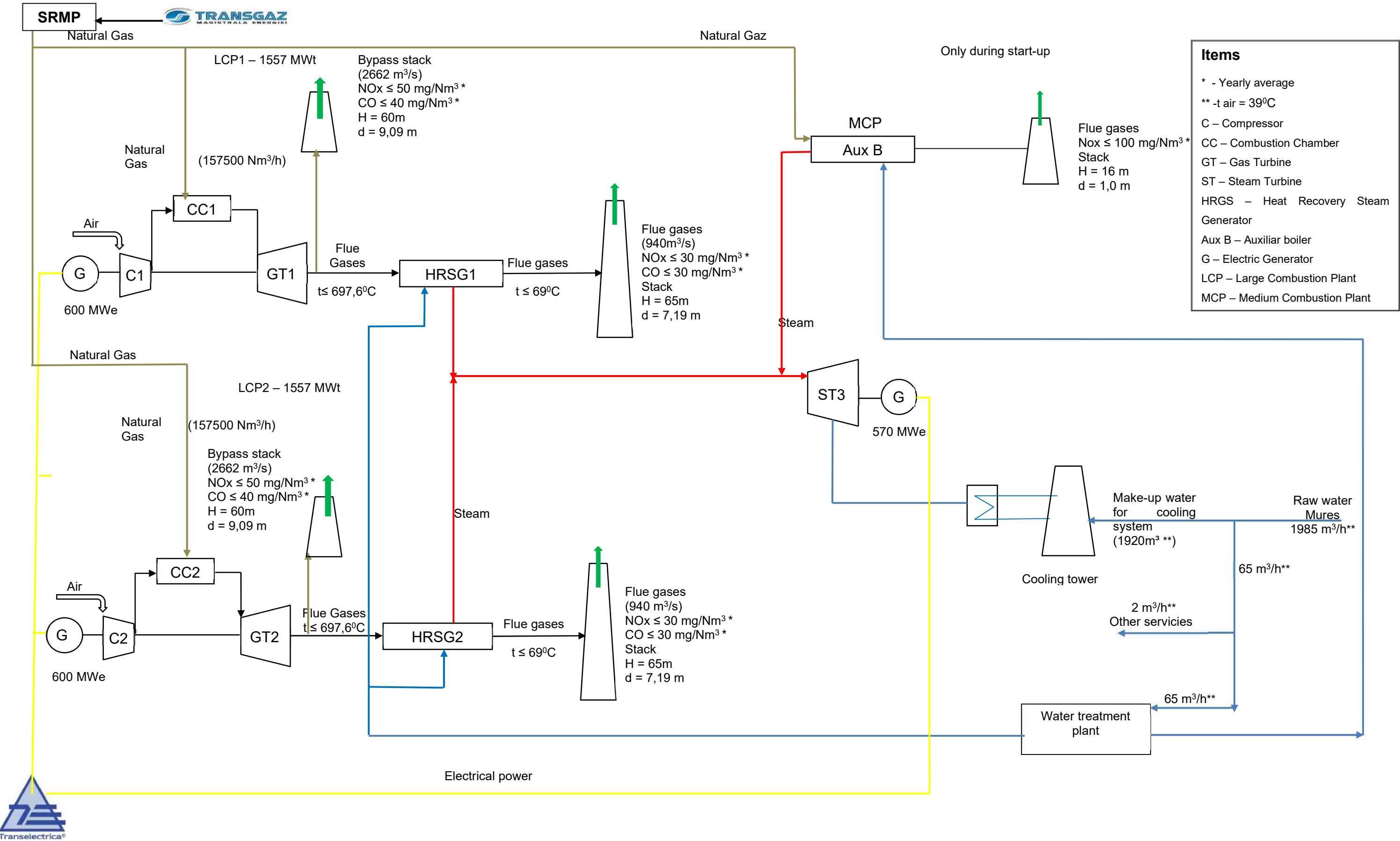
Data prelungirii valabilității _____

Achitat taxa de _____ cu chitanța nr. _____ din _____

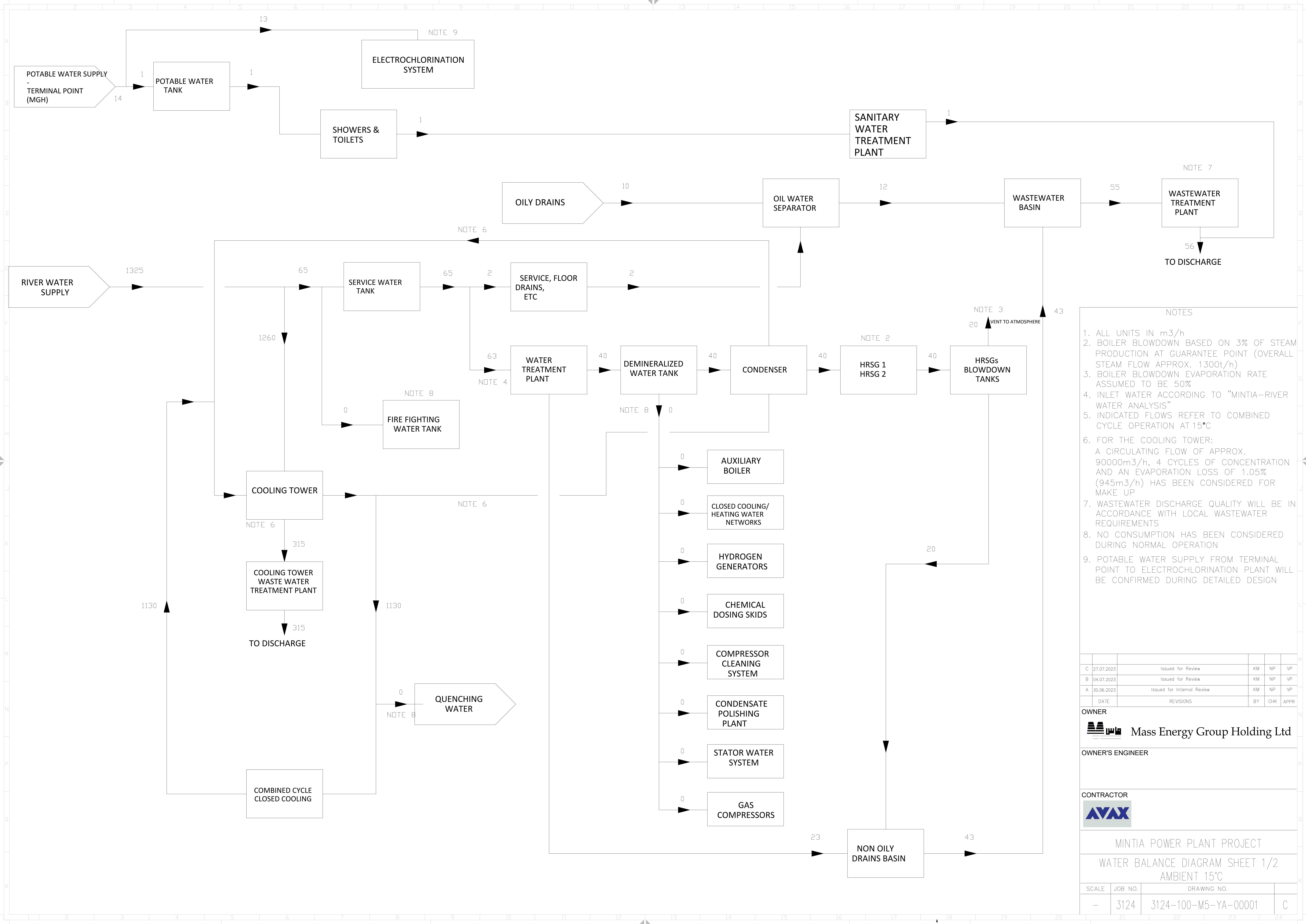
Transmis solicitantului la data de _____ direct/prin poștă.

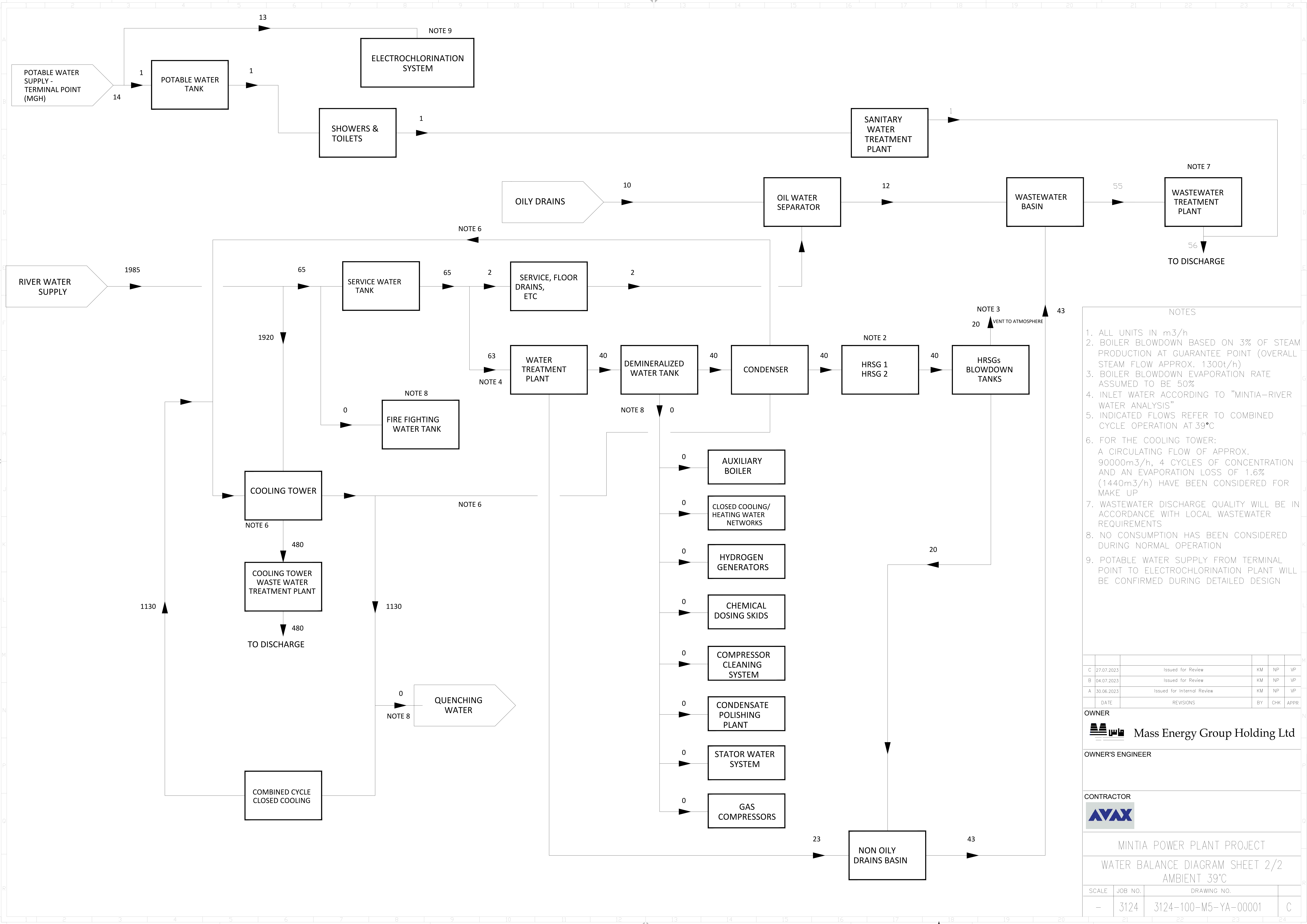
ANNEX D

TEHNOLOGICAL FLOW of CCTG MASS MINTIA 1770 MW

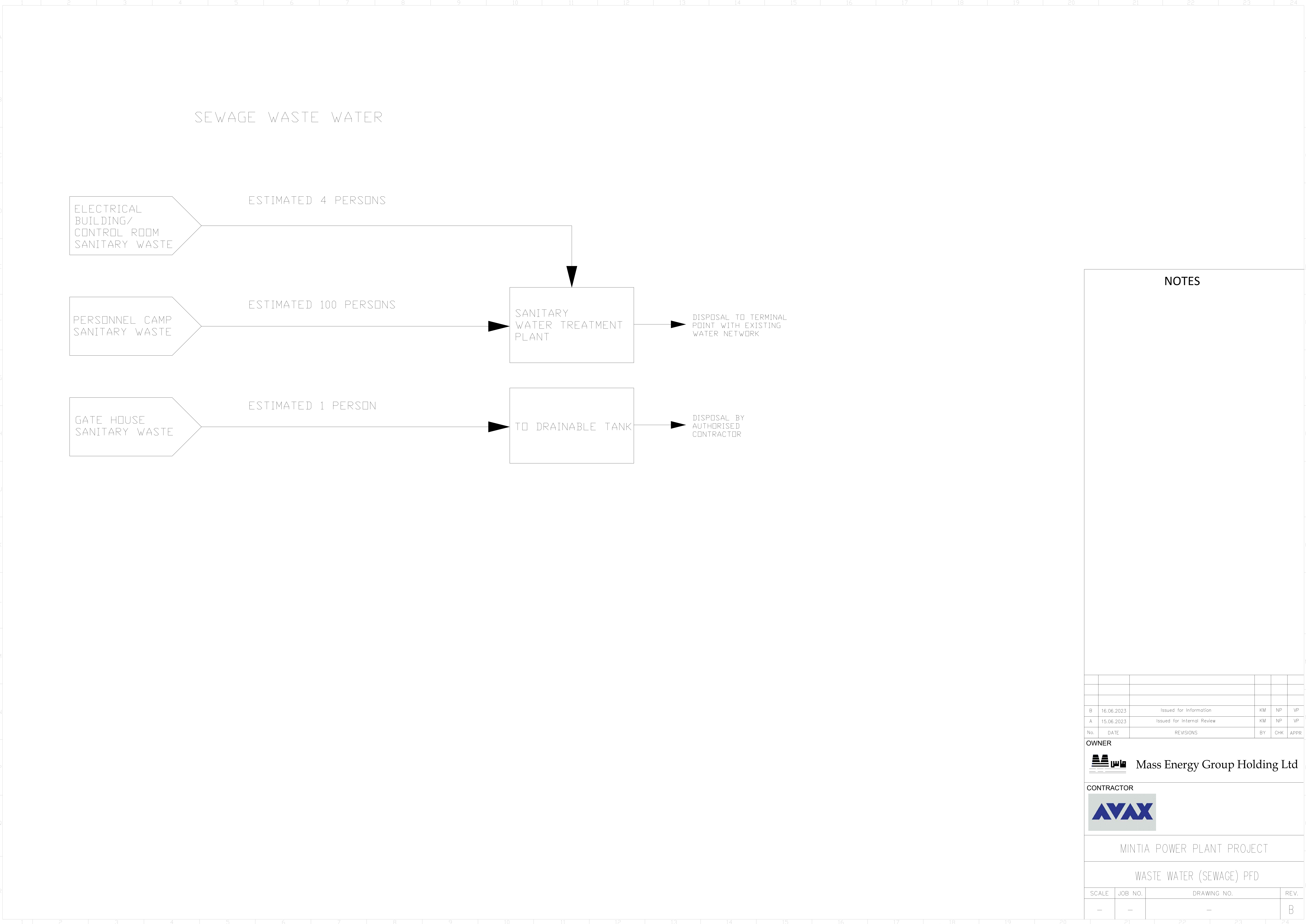


ANNEX E





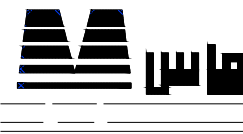
ANNEX F



NOTES

B	16.06.2023	Issued for Information	KM	NP	VP
A	15.06.2023	Issued for Internal Review	KM	NP	VP
No.	DATE	REVISIONS	BY	CHK	APPR

OWNER

 Mass Energy Group Holding Ltd

CONTRACTOR

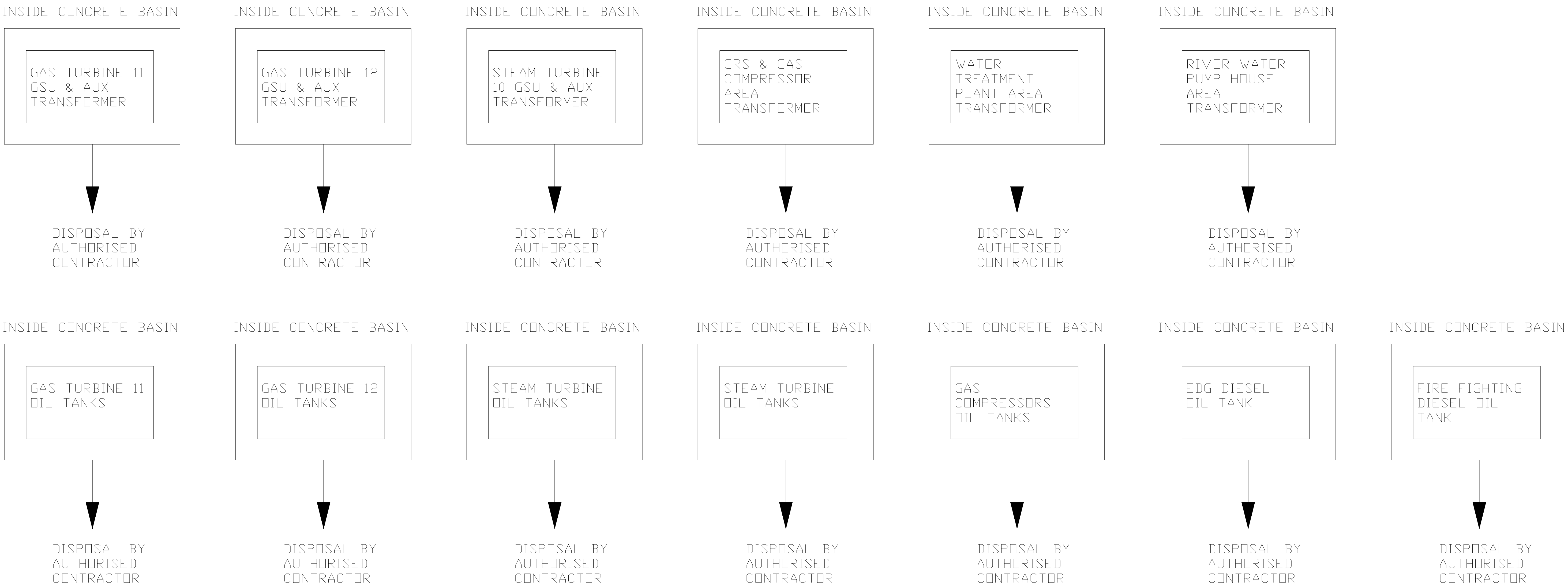
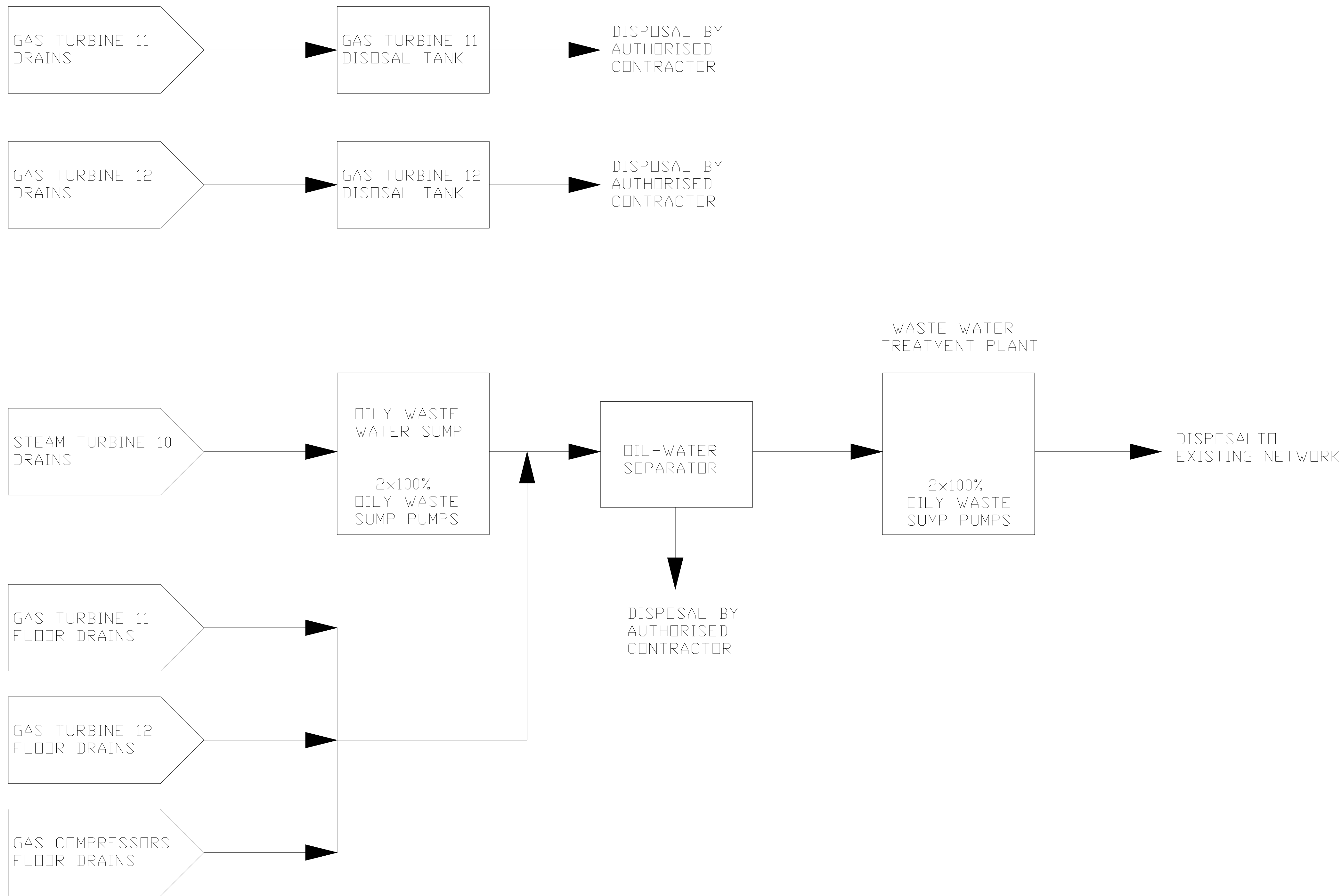


MINTIA POWER PLANT PROJECT

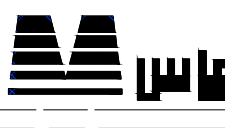
WASTE WATER (SEWAGE) PFD

SCALE	JOB NO.	DRAWING NO.	REV.
—	—	—	B

OILY EFFLUENTS NETWORK



NOTES

B	20.06.2023	Issued for Internal Use	KM	NP	NP
A	15.06.2023	Issued for Internal Use	KM	NP	NP
No.	DATE	REVISIONS	BY	CHK	APPR
OWNER					
 Mass Energy Group Holding Ltd					
CONTRACTOR					
					
MINTIA POWER PLANT TENDER					
OILY WASTE WATER PFD					
SCALE	JOB NO.	DRAWING NO.			REV.
-	-	-			B

CHEMICAL EFFLUENTS NETWORK

WATER TREATMENT
PLANT BUILDING
DRAINS

ELECTROCHLORINATION
RIVER WATER PUMP
HOUSE DRAINS

AUXILIARY BOILER
AREA

CLOSED COOLING
NETWORKS DRAINS

CLOSED HEATING
NETWORK DRAINS
(APH)

CONDENSATE
POLISHING PLANT
DRAINS

HRSGs BLOWDOWN
SUMPS

CHEMICAL DOSING
BUILDING DRAINS

SAMPLING SYSTEM
DRAINS

GRS AREA DRAINS

COOLING TOWER
BLOWDOWN

WASTE WATER
COLLECTION BASIN

2x100%
WASTE WATER PUMPS

WASTE WATER
TREATMENT PLANT

TERMINAL POINT
WITH EXISTING DISCHARGE
NETWORK

COOLING TOWER
BLOWDOWN WATER
COLLECTION BASIN

COOLING TOWER
BLOWDOWN WATER
TREATMENT PLANT

TERMINAL POINT
WITH EXISTING DISCHARGE
NETWORK

NOTES

C	24.07.2023	Issued for Internal Use	KM	NP	
B	20.06.2023	Issued for Internal Use	KM	NP	
A	15.06.2023	Issued for Internal Use	KM	NP	
No.	DATE	REVISIONS	BY	CHK	APPR

OWNER



Mass Energy Group Holding Ltd

CONTRACTOR

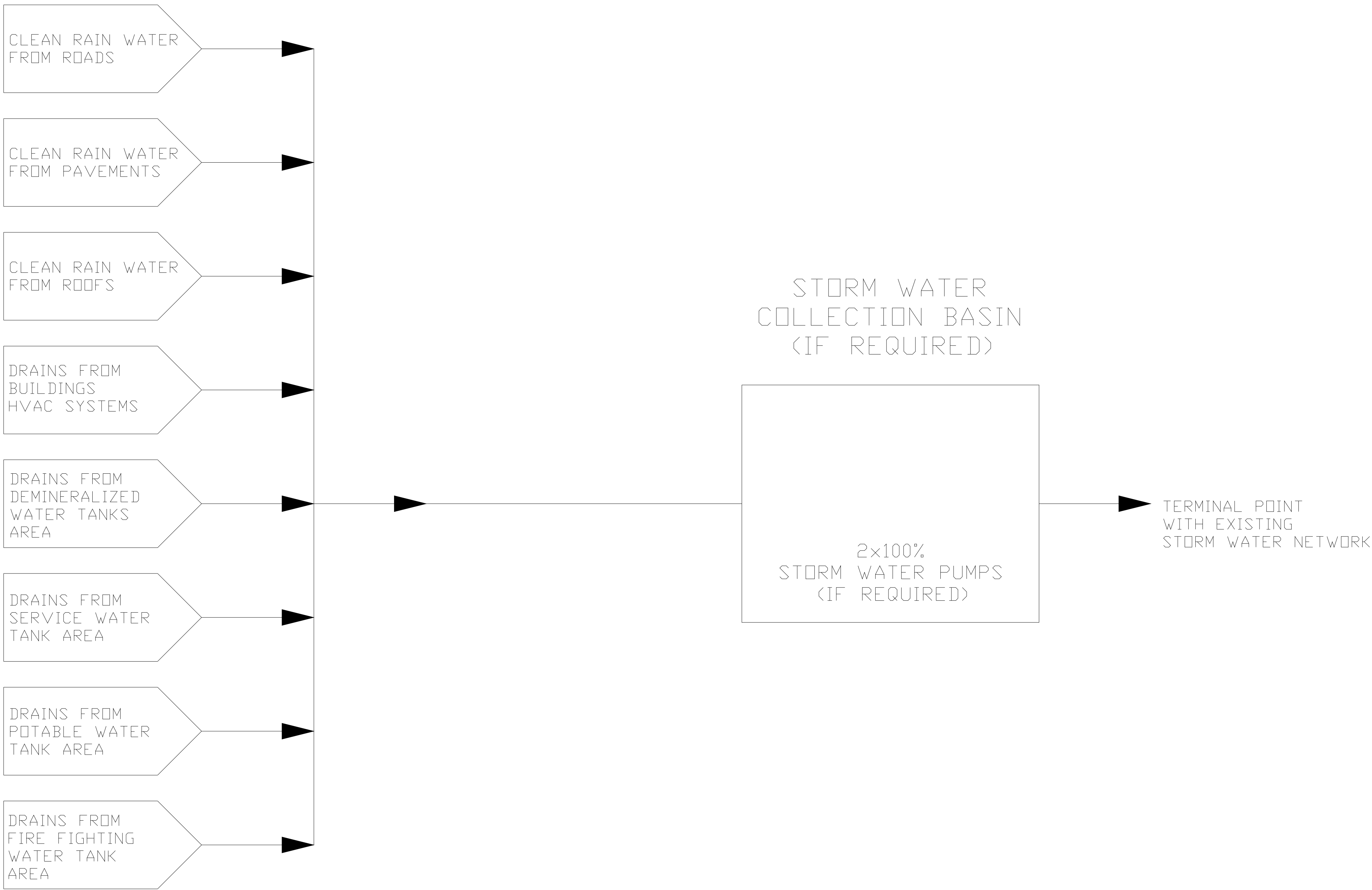


MINTIA POWER PLANT TENDER

CHEMICAL WASTE WATER PFD

SCALE	JOB NO.	DRAWING NO.	REV.
—	—	—	C

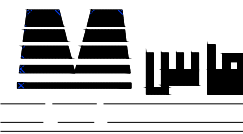
STORM WATER NETWORK



NOTES

B	16.06.2023	Issued for Information	KM	NP	VP
A	15.06.2023	Issued for Internal Review	KM	NP	VP
No.	DATE	REVISIONS	BY	CHK	APPR

OWNER

 Mass Energy Group Holding Ltd

CONTRACTOR



MINTIA POWER PLANT PROJECT

WASTE WATER (STORM WATER) PFD

SCALE	JOB NO.	DRAWING NO.	REV.
—	—	—	B

ANNEX G

Inventory and classification of hazardous substances

CCTG MASS MINTIA 1770 MW

	Name of the dangerous substance /mixture*)	Trade name of the hazardous substance /mixture	CAS No.	Danger phrase**)	Hazard class **)	Hazard category **)	Existing quantity	Maximum on-site storage capacities***)	Physical condition	Storage mode ****)	Storage/operating conditions (Atm/°C)	Location within the site	Remarks
1.	Hydrogen	Hydrogen 99.9%	1333-74-0	H220 H280	Extremely flammable gas Contains a pressurized case, danger of explosion if heated.	1 2	5,0 Nm ³ /h	Hydrogen generator plant (2x100%)	Gas	Inside piping and inside SIEMENS generators	14,80	Container	
							51 m ³	55 m ³	Gas	Storage tank	14,80	Outdoors, with fire protection wall	
							23,4 Sm ³ /h	40 m ³	Gas	Degassing tank in the electrochlorination plant		Outdoors, provided with dilution blowers (2x100%)	
2.	Ammonia	Ammonia 24,5-25%	1336-21-6	H314	Causes severe skin burns and eye damage.	1B	4 x 1000 l	2,0 m ³	Liquid	Storage tank		Container, besides HRGS	
				H335 H400		3 1	720 tones	900 m ³	Liquid	Vertical storage tank		Outdoors, SCR system	
3.	Trisodium Phosphate, Na ₃ PO ₄	Trisodium Phosphate	7601-54-9	H315 H319 H335	Causes severe skin burns Causes eye damage. May cause respiratory tract irritation	2 2 3	4 x 50 kg	2,0 m ³	Solid (p0wder)	Storage tank		Container, besides HRGS	
4.	Sulfuric acid, H ₂ SO ₄	Sulfuric acid 98%	7664-93-9	H290 H314	May be corrosive to metals Causes severe skin burns and eye damage	1 1A	1,5 x 1000 l	5,0 m ³	Liquid	Storage tank		Indoors, condensate polishing plant building	
							0,6 x 60 l	180 l	Liquid	Storage tank		Indoors, in water treatment plant building	
							0,17 x 170 l	180 l	Liquid	Storage tank		Indoors, in water treatment plant building	
5.	Hydrochloric acid, HCl	Hydrochloric acid , 30-33%	7647-01-0	H290 H314 H335	May be corrosive to metals Causes severe skin burns and eye damage May cause respiratory tract irritation	1 1B 3	0,2 x 1000 l	200 l	Liquid	Portable tank		Indoors, electrochlorination plant building	
6.	Caustic soda, NaOH	Caustic soda, 45-48%	1310-73-2	H290 H314	May be corrosive to metals Causes severe skin burns and eye damage	1 1B	2,9 x 1000 l	7,0 m ³	Liquid	Storage tank		Indoors, Condensate polishing plant building	
				H318		1	1,2 x 1000 l	180 l	Liquid	Storage tank		Indoors, in water treatment plant building	
							0,3 x 1000 l	180 l	Liquid	Storage tank		Indoors, in water treatment plant building	

7.	Mono ethylene Glycol, C ₂ H ₆ O ₂	Mono ethylene Glycol, 99,8%	107-21-1	H302 H373	Harmful if swallowed May cause organ damage (kidneys) through prolonged or repeated exposure if swallowed	4 2	21,5 x 1000 l	50,0 m ³	Liquid	Inside pipes		Indoors/outdoors – Cooling water system (43% concentration)	
8.	Sodium Hypochlorite, NaOCl	Sodium Hypochlorite, 12-15%	7681-52-9	H290 H314	May be corrosive to metals Causes skin corrosion/irritation	1 1B	0,05 x 1000 l	10 l	Liquid	Storage tank		Indoors, in wastewater treatment plant building	
				H318	Causes serious eye damage/eye irritation	1	2,6 x 1000 l	180 l = 0,18 m ³	Liquid	Storage tank		Indoors, in water treatment plant building	
				H400	Hazardous to the aquatic environment - acute danger	1		35 m ³	Liquid	Degassing tank		Indoors, electrochlorination plant building	
				H411	Hazardous to the aquatic environment - chronic hazard	2							
9.	Antiscalant	Genesys MP	7664 -38 -2	H290 H302 H314 H318	Substance or mixture corrosive to metals Acute toxicity (oral) Skin corrosion/irritation Serious eye damage/eye irritation	1 4 1B 1	3.750 kg/an	180 l = 0,18 m ³	Liquid	Storage tank		Indoors, in water treatment plant building	
10.	Poly Aluminium Chloride (PAC) coagulant		7446-70-0	H314	Skin corrosion/irritation	1B	7.344 kg/an	3,0 m ³	Solid (p0wder)	Storage tank		Indoors, in wastewater treatment plant building	
11.	Lubricants, oils	Commercial mixture of lubricating oils and light naphthenic distillates/ heavy paraffinic	94733-15-0 101316-72-7 64742-53-6 64742-54-7	H304	May be fatal if swallowed and enters airways	1	100 tones		Liquid	Inside the TG1 transformer and in its own tank		Outdoors, provided with proper dike (100%) and fire protection	
							100 tones		Liquid	Inside the TG2 transformer and in its own tank		Outdoors, provided with proper dike (100%) and fire protection	
							100 tones		Liquid	Inside the TA1 transformer and in its own tank		Outdoors, provided with proper dike (100%) and fire protection	
		Commercial mixture of lubricating oils and light naphthenic distillates/ heavy paraffinic	Does not have 3115-49-9 90-30-2	-	No known significant effects or critical hazards to human health Not classified as dangerous for the environment	-		46 m ³	Liquid	The lubricating oil tank of TG1		Indoors, inside GTG building	
								46 m ³	Liquid	The lubricating oil tank of TG2		Indoors, inside GTG building	
								26 m ³	Liquid	The lubricating oil tank of TA1		Indoors, inside STG building	
								0,6 m ³	Liquid	The control oil tank of TA1		Indoors, inside STG building	
		Commercial mixture of distillates, lubricating oils, paraffinic, reaction products, others	64742-53-8 94733-15-0 91995-40-3 7173-62-8 112-90- 3	H226 H302 H304 H314 H317	Flammable liquid and vapor Acute toxicity (oral) May be fatal if swallowed and enters airways Skin corrosion/irritation May cause an allergic skin reaction Serious eye damage/eye irritation	3 4 1 1B 1		1,0 m ³	Liquid	The hydraulic oil tank of TG1		Indoors, inside GTG building	
								1,0 m ³	Liquid	The hydraulic oil tank of TG2		Indoors, inside GTG building	

				H318	May cause respiratory tract irritation	1						
				H335	Causes organ damage through prolonged or repeated exposure	3						
				H372	May cause kidney damage through prolonged or repeated exposure if swallowed	1						
				H373	Hazardous to the aquatic environment - acute danger	1						
				H400	Hazardous to the aquatic environment - chronic hazard	1						
				H410	Toxic to the aquatic environment	1						
				H411		2						
12	Diesel Oil		68334-30-5	H226	Flammable liquid and vapor	3		10 m ³	Liquid	Metallic tank		Outdoors (Proper dike 110%)
				H304	May be fatal if swallowed and enters airways	1						
					Causes skin irritation Harmful if inhaled Likely to cause cancer	2		1,5 m ³	Liquid	Metal tank with double walls		Indoors
				H315		4						
				H332		2						
				H351	May cause damage to organs through prolonged or repeated exposure	2						
				H373	Toxic to the aquatic environment	2						
				H411		2						

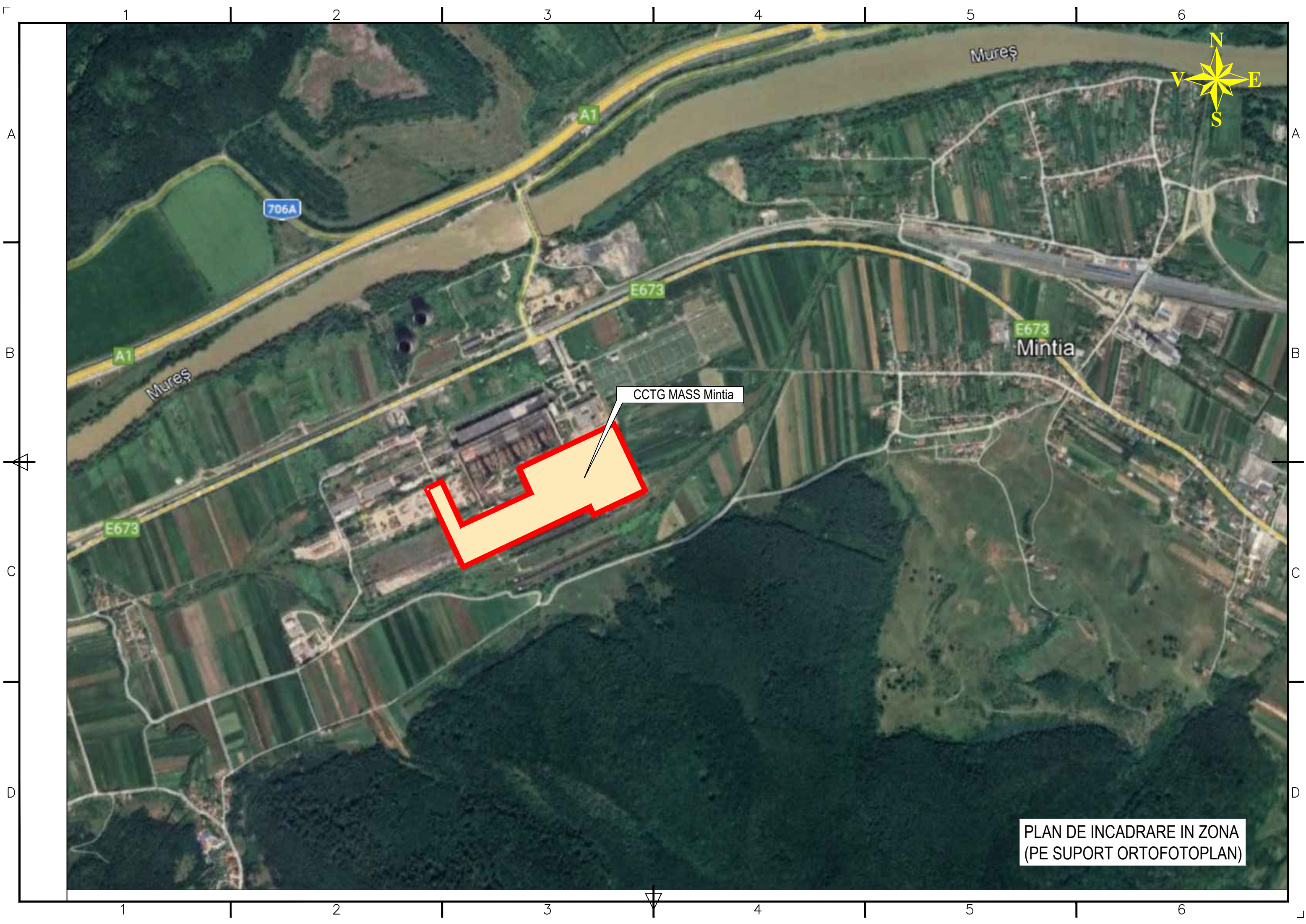
*) All substances/mixtures will be designated as defined in Law no. 59/2016, with subsequent additions.

**) According to the provisions of the safety data sheet (SDS) and Regulation (EC) no. 1,272/2008 of the European Parliament and of the Council of 16 December 2008 on the classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1,999/45/EC, as well as amending the Regulation (CE) no. 1.907/2006.

***) According to the definition in point 3 of annex no. 1 to the procedure.

****) Mode of storage - the form in which the hazardous substance is stored (eg: atmospheric/cooled/pressure tank, sphere, cylindrical, horizontal, vertical, aboveground, underground, tank, tailings pond, on platform concreted, in closed/covered storage, bags, crates, cylinders, barrels, drums, etc.), as well as the number and maximum capacity (m3/ton).

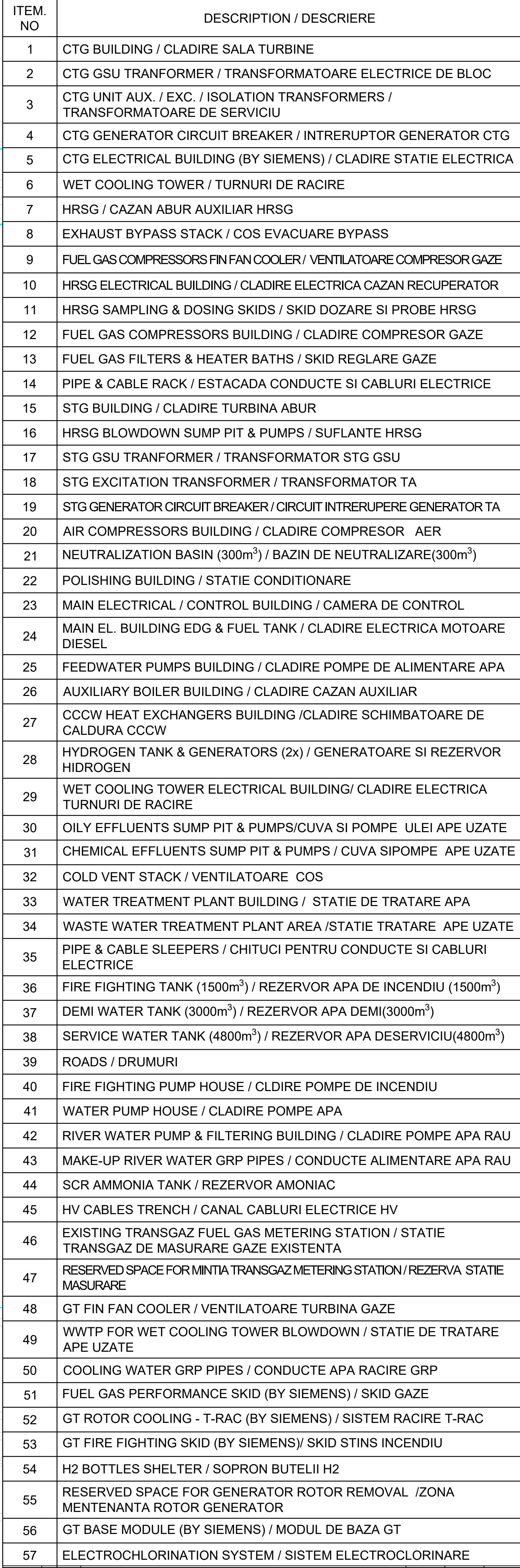
ANNEX H



CCTG MASS Mintia

PLAN DE INCADRARE IN ZONA
(PE SUPORT ORTOFOTOPLAN)

ANNEX I



PROJECT / OWNER	
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OWNER'S ENGINEER

CONTRACTOR 

SCALE	JOB NO.	DRAWING NO.	REV.
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PAPER SIZE ROLL 1600x841mm

LEGEND / LEGENDA:

	MAINTENANCE ACCESS (WIDTH 4m) ZONA MENTENANTA (LATIME 4m)
	CABLE CHANNEL CANAL CABLURI ELECTRICE
	ACCES ROADS DRUMURI DE ACCES