**Notice response to the EIA:**

1. The material mapped with the results of ambient air pollution modeling as well as precise data (as numerical values) for expected concentrations of ambient air pollutants - up to 1-hour, daily average and annual average, at the nearest residential buildings in Tutrakan. In particular, we would like to point out that in the mathematical modeling to determine the unique maximum concentration of H2S emissions with the wind direction to Tutrakan, the 16 mg / Nm value should be set as the input parameter of the H2S emission limit model.

* Pages 151-160 from EIM

The dispersion study of pollutants generated by the activities that will be conducted on the location of Green Oil and Lubes S.R.L. - the used oil recycling plant of Oltenita, had the subject of estimating the levels of concentrations of SO2, NOx, CO and PM10 particles in the surrounding air, in the impact area of the location.

As potential sources of smells on the location, the transitory emissions of volatile organic compounds (COV) and H2S are mentioned.

The recycling plant using refining of the used mineral oils is a new plant, that is in accordance with the requirements regarding the best available techniques (BAT) in the area (waste treatment - WT and emissions from storage - EFS) so that there are stipulated, as early as the design stage, measures to eliminate the transitory emissions.

Considering those above, it resulted that the COV and H2S emissions, susceptible to produce objectionable smells in the air pool of the town of Oltenita and Tutrakan, are not relevant in case of the used oil recycling plant.

The model calculations for the dispersion of the pollutant were made in three stages:

- In the first stage, the model was for the dispersion of the pollutants coming from the sources of the location of the used oil recycling plant - fixed sources and the internal road traffic (internal sources);

- In the second stage, the model was the dispersion of pollutants coming from sources outside of the location - household consumers and the road traffic from Oltenita town (external sources);

- In the third stage the model was the dispersion of pollutants coming from both internal sources and external sources (cumulated impact).

Model calculations were made for the average periods stipulated by Law no. 104/ 2011, on the quality of the surrounding air, as follows:

- For SO2: 60 minutes, 24 hours, yearly and in winter;

- For NOx: 60 minutes and yearly;

- For CO: 8 hours;

- For PM10 particles: 24 hours and yearly.

Based on the weather and relief data characteristic to the Oltenita - Tutrakan area, in the model calculations for the dispersion of pollutants on a short average time, multiple scenarios were analyzed, considering several wind directions and three classes of atmospheric stability.

The atmospheric stability classes considered in the calculation are:

- The stability class B (unstable), air temperature 25oC, wind speed 1 m/s - specific conditions for daytime, during the warm season;

- The stability class D (neutral), air temperature 15oC, wind speed 10 m/s - stormy conditions;

- The stability class F (stable), air temperature 15oC, wind speed 0.5 m/s - specific conditions for night time;

In the model calculations for the short time average dispersion (60 min), the following wind directions were taken into consideration:

- WSW - predominant direction of the wind, parallel to the Danube river bed;

- NE - third predominant direction, towards Tutrakan town;

- NNE - fourth predominant direction, towards Tutrakan town;

- N - represents the least likely direction, but at the same time the situation most unfavorable in the analysis of the impact on the air quality in the town of Tutrakan;

- SSV - towards the town of Oltenita;

- calm atmosphere.

For the situation of calm atmosphere, the stability classes B (unstable) and F (stable) were considered, in the temperature conditions stated above. The D stability class (neuter) is not applicable to situations of calm atmosphere.

In model calculations of the dispersion during night time on an average of 24 hours, the following days considered as representative were selected from the weather database:

- for the cold season - the day of 15.01.2018;

- for the warm season - the day of 05.07.2017;

- for transitioning season - the day of 02.10.2017.

In the model calculations for CO dispersion for an average time of 8 hours, runways for the hourly interval of 1 to 8, 9 to 16 and 17 to 24 were performed for the 3 days mentioned above, 1 o’clock being the timeframe of 0:01 - 1:00.

In the model calculations of the dispersion for an average yearly time, the weather database was used for the calendar year of 2017.

For the model of the SO2 dispersion - average time for the cold season, the weather database was used corresponding to the interval 01.10.2017 - 31.03.2018.

From the “Dispersion study of pollutants in the atmosphere” for the location of S.C. GREEN OIL AND LUBES S.R.L. the used oil recycling plant, Oltenita town, Calarasi county, it resulted that the impact generated from the used oil recycling plant activity on the quality of the surrounding air is insignificant from the point of view of the indicators NOx, CO and PM10 particles.

Considering those above, in the following table there is comparative presentation of the results of the dispersion calculations for the pollutant SO2, in three hypotheses: internal sources from the location of the used oil recycling plant, external sources from Oltenita town (road traffic and residential heating) and the cumulated impact, that is the maximum concentration resulted from the calculation of the location of the point where the maximum concentration is reached.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Average time/ wind direction** | **Stability class** | **Limit val. µg/m3 acc.to Law104/2011** | **Internally** | | **Externally** | | **Cumulation** | |
| **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** |
| 1 | 60 min./ WSW | B | 350 | 10.52 | Land free of constructions, Oltenita 4  4o 4’4.16” N, 26o38’2.01” E | 2.63 | Housing area of Oltenita town  44o 5’24.92” N, 26o38’44.14” E | 13.91 | Land free of constructions, Oltenita 44o 4’4.16” N, 26o37’58.29’’E |
| 2 | D | 2.92 | Land free of constructions, Oltenita 44o 4’4.16” N, 26o38’2.01” E | 0.32 | Housing area of Oltenita town  44o 5’24.92” N, 26o38’44.14” E | 7.47 | Land free of constructions, Oltenita 44o 4’4.16” N, 26o38’2.01’’E |
| 3 | F | 2.53 | Agricultural land south of Ulmeni town  44o 6’49.11” N,  26o 44’13.53” E | 3.23 | Housing area of Oltenita town  44o 5’24.92” N, 26o38’9.05” E | 2.60 | Agricultural land south of Ulmeni town  44o 6’49.11” N,  26o 44’13.53” E |
| 4 | 60 min./  NE | B | 350 | 16.25 | Land free of constructions, about 200 m SW of the location  44o 3’51.06” N, 26o37’28.02” E | 1.42 | Housing area of Oltenita town  44o 5’13.53” N, 26o38’36.93” E | 16.09 | Land free of constructions, about 200 m SW of the location  44o 3’51.06” N, 26o37’28.02” E |
| 5 | D | 10.06 | Land free of constructions, about 200 m SW of the location  44o 3’51.06” N, 26o37’28.02” E | 0.28 | Housing area of Oltenita town  44o 5’22.72” N, 26o38’13.01” E | 9.97 | Land free of constructions, about 200 m SW of the location  44o 3’51.06” N, 26o37’28.02” E |
| 6 | F | 22.19 | West area of Tutrakan town  44o 2’43.41” N, 26o35’57.41’’E | 7.56 | Housing area of Oltenita town  44o 5’17.03” N, 26o37’42.49” E | 22.19 | West area of Tutrakan town  44o 2’43.41” N, 26o35’57.41’’E |

Comparative analysis of the results of the dispersion calculations of SO2:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Average time/ wind direction** | **Stability class** | **Limit val. µg/m3 acc.to Law104/2011** | **Internally** | | **Externally** | | **Cumulation** | |
| **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** |
| 7 | 60 min./ NNE | B | 350 | 14.91 | About 200 m SSW of the location, land free of constructions 44o 3’48.11” N, 26o37’33.37” E | 3.39 | Housing area of Oltenita town  44o 5’13.53” N, 26o38’36.93” E | 14.83 | Land free of constructions, about 200 m SSW from the location  44o 3’48.11” N, 26o37’33.37” E |
| 8 | D | 7.05 | About 200 m SSW of the location, land free of constructions 44o 3’48.11” N, 26o37’33.37” E | 0.64 | Housing area of Oltenita town  44o 5’13.53” N, 26o38’36.93” E | 7.17 | Land free of constructions, about 200 m SSW from the location  44o 3’48.11” N, 26o37’33.37” E |
| 9 | F | 61.32 | In Tutrakan town, housing area, UI.D. Blagoev  44o 3’8.09” N,  26o 37’10.48” E | 8.16 | Housing area of Oltenita town  44o 5’3.39” N, 26o38’16.27” E | 59.56 | In Tutrakan town, housing area, UI.D. Blagoev  44o 3’8.09” N,  26o 37’10.48” E |
| 10 | 60 min./  N | B | 350 | 13.90 | About 500 m S of location, in the Romanian Danube sector  44o 3’37.53” N, 26o37’40.10” E | 3.34 | Housing area of Oltenita town  44o 5’13.53” N, 26o38’36.93” E | 13.90 | About 200 m S of the location, left shore of the Danube  44o 3’48.17” N, 26o37’40.10” E |
| 11 | D | 6.18 | About 400 m S from the location  44o 3’41.86” N, 26o37’40.10” E | 0.54 | Housing area of Oltenita town  44o 5’13.53” N, 26o38’36.93” E | 6.84 | About 100 m S from the location, land free of constructions  44o 3’51.92” N, 26o37’40.10” E |
| 12 | F | 83.6 | In NE of Tutrakan town  44o 3’10.57” N, 26o37’40.10” E | 1.70 | Housing area of Oltenita town  44o 5’10.46” N, 26o38’36.93” E | 83.88 | In NE of Tutrakan town  44o 3’10.57” N, 26o37’40.10” E |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Average time/ wind direction** | **Stability class** | **Limit val. µg/m3 acc.to Law104/2011** | **Internally** | | **Externally** | | **Cumulation** | |
| **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** |
| 13 | 60 min./ SSW | B | 350 | 10.50 | Land free of constructions, west of a housing area, Oltenita  44o 4’16.86” N, 26o37’50.50” E | 1.41 | Housing area of Oltenita town  44o 5’19.98” N, 26o38’4.95” E | 13.94 | About 300 m NE of the location, land free of constructions  44o 4’11.36” N, 26o37’50.50” E |
| 14 | D | 2.96 | Land free of constructions, west of a housing area, Oltenita  44o 4’27.67” N, 26o37’53.78” E | 0.29 | Housing area of Oltenita town  44o 4’46.18” N, 26o38’9.92” E | 6.95 | Land free of constructions, west of a housing area, Oltenita  44o 4’16.86” N, 26o37’50.50” E |
| 15 | F | 2.53 | Agricultural land west of Ulmeni town  44o 8’47.54” N,  26o 40’28.87” E | 2.95 | Housing area of Oltenita town  44o 4’46.18” N, 26o38’9.92” E | 2.81 | Agricultural land west of Ulmeni town  44o 8’47.54” N,  26o 40’28.87” E |
| 16 | 60 min./  calm | B | 350 | 1.66 | In the location  44o 4’0.99” N, 26o37’40.50” E | 0.78 | Housing area of Oltenita town  44o 5’16.65” N, 26o38’21.53” E | 1.66 | In the location  44o 4’0.99” N, 26o37’40.50” E |
| 17 | F | 1.52 | In the location  44o 3’59.19” N, 26o37’44.99” E | 2.33 | Housing area of Oltenita town  44o 5’26.37” N, 26o38’18.15” E | 2.57 | Housing area in Oltenita town  44o 5’26.37” N, 26o38’18.15” E |
| 18 | 20 hours/ winter | | 125 | 10.07 | Land free of constructions, about 400 m W from the location  44o 3’55.25” N, 26o37’25.06” E | 1.35 | Housing area of Oltenita town  44o 5’29.33” N, 26o37’50.92” E | 10.07 | Land free of constructions, about 400 m W of the location  44o 3’57.10” N, 26o37’30.82” E |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Average time/ wind direction** | **Stability class** | **Limit val. µg/m3 acc.to Law104/2011** | **Internally** | | **Externally** | | **Cumulation** | |
| **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** | **Cmax, µg/m3** | **Location maximum concentration point, coordinates** |
| 19 | 24 hours/ summer | | 125 | 6.6 | Land free of constructions, about 1200 m E from the location  44o 3’57.17” N, 26o38’39.88” E | 13.71 | Housing area of Oltenita town  44o 5’10.33” N, 26o38’51.51” E | 6.58 | Land free of constructions, about 200 m W of the location  44o 4’1.40” N, 26o37’25.23” E |
| 20 | 24 hours/ autumn | | 125 | 13.11 | Land free of construction near Tutrakan town, about 1.3 km S from the location  44o 3’14.98” N, 26o37’40.10” E | 2.20 | Housing area of Oltenita town  44o 5’22.72” N, 26o38’13.01” E | 13.21 | Land free of construction near Tutrakan town, about 1.3 km S from the location  44o 3’14.98” N, 26o37’40.10” E |
| 21 | Calendar year | | 20 | 1.87 | About 500 m W from the location, land free of constructions  44o 3’55.25” N, 26o37’20.94” E | 0.403 | Housing area of Oltenita town  44o 5’19.98” N, 26o38’4.95” E | 1.85 | About 500 m W from the location, land free of constructions  44o 3’55.25” N, 26o37’20.94” E |
| 22 | Winter (01.10.2017 – 31.03.2018) | | 20 | 2.26 | About 100 m NE from the location, land free of constructions  44o 4’4.30” N, 26o37’45.16” E | 0.558 | Housing area of Oltenita town  44o 5’19.98” N, 26o38’4.95” E | 2.36 | About 100 m NE from the location, land free of constructions  44o 4’4.30” N, 26o37’45.16” E |

The graphic representations of the calculations for the model dispersion, in the form of dispersion maps for the pollutant SO2 are attached to the study - Annexes no. 10 (for the internal sources), 14 (for the external sources) and 18 (for the cumulated impact).

From the data presented in the above table, on the model dispersion of SO2, it results that following the commissioning of the installations from the location of the used oil recycling plant, no exceeding of the limit values admitted for the pollutant SO2, in none of the situations analyzed will be registered and the major contribution to the level of SO2 in the air belongs to the sources on the location.

In the least favorable situation, namely winds from the NNE and N sector, the maximum concentrations reach values of 61.32 µg/ m3 according to Law no. 104/ 2011 *on the quality of the surrounding air* and to Directive 2008/50/EC of the European Parliament and Council, *on the quality of the surrounding air and a cleaner air for Europe,* and are registered in the area of Tutrakan town - Bulgaria.

For average periods of 24 hours, yearly and in winter, the maximum concentrations are reach in the vicinity of the location and are situated 1-2 sizes below the limit values in accordance with Law no. 104/ 2011 *on the quality of the surrounding air* and to Directive 2008/50/EC of the European Parliament and Council, *on the quality of the surrounding air and a cleaner air for Europe*, that is 125 and 20 µg/m3.

**Therefore, from the point of view of the SO2 pollution, it resulted that the activities performed on the location of the used oil recycling plant will have an insignificant impact on the quality of the environment factor - on the air.**

**From the point of view of the NOx, CO and PM10 particles, following the analysis on the results of the dispersion, it resulted that the activities on the location of the used oil recycling plant have an insignificant contribution to the level of their concentrations in the surrounding air, the main contributor to this meaning being outside sources - residential heating and road traffic in Oltenita town.**

**Following the results of the dispersion calculation of pollutants resulted from the activities operated on the location of Green Oil and Lubes S.R.L. - the used oil recycling plant, in the context of the cumulated impact, it resulted that the activities that will be performed on the location will have an INSIGNIFICANT impact on the environmental factor AIR.**

1. More detailed approach and analysis of the possibility of spreading unpleasant odors from different site installations. It should be noted that the threshold of perception of unpleasant odors for a large part of the organic compounds for these types of sites is lower than the acceptable concentrations and even if they fall within the norm, it is not a guarantee that there will be unpleasant odors in the closest settlement within the Bulgarian territory, which is in a disadvantage compared to the dominant direction of the wind in the region - raspuns corelat cu punctul 3 si punctul 10, paginile 160 - 164

  The distance from the nearest residential buildings on the Bulgarian territory is 1.27 km.

Following the analysis of the recycling technological process of used oils by re-refining, it resulted that it will not represent a pollution source for hydrogen sulphide, as all the combustible gases containing hydrogen sulphide will be burned in a controlled manner before being released into the atmosphere.

The technological process of recycling by re-refining of used oils is operated in a closed system. The oils are supplied by tanks, from where they are transferred by pumping in closed storage tanks. Used mineral oils are based on heavy oil fractions, practically nonvolatile. Therefore, from the supply and storage of the used mineral oils, there are no emissions of volatile organic compounds, that could represent a source of smells in the air pool of the towns of Oltenita and Tutrakan.

The refining process of used oils entails a hydrofining phase - catalytic treatment of used oils in high temperatures with hydrogen. Following the hydrofining reaction, a gas mixture results that is rich in hydrogen, inferior hydrocarbons also containing hydrogen sulphide. A part of the gas mixture is recirculated in the process and the excess is used as combustion gas, alone or in a mixture with methane gas, in the technologic oven for heating the thermal fluid - the high temperature heater. As the hydrogen sulphide is an extremely flammable gas, as well as hydrogen, methane and inferior hydrocarbons, in a controlled burning environment, it completely oxidizes to sulphur dioxide and water vapors, the resulting sulphur dioxide then being retained in the scrubber.

In case of malfunction, the gases of the refining circuit are sent to the flame, that in turn represents a controlled burning system, so that the oxidizing of the hydrogen sulphide is also complete in this situation. A malfunction situation of the type of that described in this paragraph has a duration of about 2-3 mixtures, time necessary to remedy the parameter deviations that generated this situation or to shut down the installation, as necessary.

When storing and delivering the finished products - basis for mineral oils, heavy oil fractions with an extremely low volatility are transported in closed system (tanks, oil cars). Therefore, similar to the supply and storage operations of the used oils, the storage and delivery operations of the finished products do not represent a source of emission for volatile organic compounds that could represent a source of smells in the air pool of the towns Oltenita and Tutrakan.

The only potential source of smells could be the transitory emissions of gas from the gas circuit rich in hydrogen. The recycling plant for refining used mineral oils is a new installation, that complies with the requirements of the best available techniques (BAT) in the area, so that, even from the design stage, measures to eliminate transitory gases are stipulated.

Considering those above, it results that the used mineral oil recycling plant and its attached installations do not represent a source of hydrogen sulphide and/or organic volatile compounds, that could generate smells in the air pool of the towns Oltenita and Tutrakan.

The unit has no operating installations in other countries that can be used for comparison on the generating smells. But if the provisions of the environmental laws in force will be followed and the emissions and immissions monitoring will be performed when the plant becomes operational, there is no negative impact expected on the residential areas.

1. Summarizing all the technological solutions and possible measures that are envisaged to prevent the release of pollutants into ambient air and odors other than those for which mathematical modeling and prediction of expected concentrations are achieved, the probability of releasing volatile organic pollutants should be taken into account in the report for identifying and taking measures to reduce air pollution and thus avoiding diffuse pollution of Danube waters with such substances

After analyzing the technological process of recycling of waste oils by re-refining, it was not a source of pollution with volatile organic compounds that could generate odors in the air basin of Oltenita and Tutrakan.

1. Provide additional information on the treatment of waste water from Oltenita and the place of discharge. To indicate whether there are sources of drinking water on the Danube River's terrace on the territory of the Republic of Bulgaria that could be affected by accidental spillages and pollution of the Danube river and if there is a risk of low quality in the Danube

Description of the treatment installation flow:

The raw effluent will be received in the equilibration tank, where the wastewater must be properly blended. Then, the wastewater will be sent to the TPI unit (the inclined plate interceptor) in order to eliminate the free oil from the wastewater. The wastewater without oil must be sent to the pH regulating tank in order to bring the pH to a neutral value.

After regulating the pH, the wastewater must be pumped in the aeration tank through transfer pumps. Airing will be ensured for the elimination of BOD, COD, iron, NO2, NO3, of a part of the H2S and of other organic solids up to the maximum limit of this treatment. The nitrification and denitrification also take place in the aeration tank. The nitrification is a process that develops over two stages: during the first stage, ammonia is oxidized into nitrite through nitrosamine bacteria and in the second stage, the nitrobacterial bacteria oxidize the nitrite intro nitrate. Then, the biological reduction of the nitrate into nitrogen is called biological denitrification.

Later on, the effluent will pass in the Decanter. A part of the sludge in the Decanter is recycled in the Airing tank and the excess sludge is transferred in the sludge tank that is then pumped though mixing pumps in the bag filter (sludge dehydrating unit). The sludge thus formed is then sent to be evacuated. The filtered agent from the bag filter must be recycled in the ETP by refilling the balancing tank.

Aeration is then followed by Chlorination in the Chlorine Contact Tank. Chlorination must be performed to remove the H2S, COD, BOD and iron residues. Then, dichlorination must be made before passing the effluent in the PSF (Pressure Sand Filter).

This effluent is then passed in the Pressure Sand Filter, for eliminating the suspension solids. After the PSF, it goes to the active charcoal filter to eliminate some of the COD. The effluent is then stored in the feeding pond of the softener.

The effluent in the softener feeding pond is pumped in the water softening unit to eliminate calcium, magnesium, etc. and the hard water is turned into softened water, that can then pass through the ultra-filtration system to eliminate the suspended solids and the silt charge and then to eliminate the dissolved solids.

Considering that the water coming from our location is passed through treatment installations before evacuation in the town sewage, our unit does not contribute to the pollution of the Danube water or of the groundwater. After the installation becomes functional, the evacuated wastewater will be monitored by taking periodic samples.

The Oltenita wastewater treatment installation is located in the industrial area of the town and is mechanical - biological with a capacity of 403 m3/ h.

It is designed to respond to the parameters imposed by the NTPA 001/2002 Regulation (main indicators: CCO - 125 mg/l, CBO5 - 25 mg/l, MTS - 35 mg/l, Total N - 15 mg/ l, Total P - 2 mg/ l, extractible substances - 20 mg/ l).

The mechanical stage includes 3 sieving lines, sand filtering (rough substances and sand are retained) and oil separation. The biological stage includes 3 lines for the decomposition of organic substances, nitrification, denitrification and biological dephosphorization.

The concentration of the dehydrated sludge is 22% dry substance.

The wastewater treatment installation has a big handling capacity, but for now its loading is of maximum 50%.

The wastewater is discharged in the Danube river outlet, in the area of Km 428.8.

1. Provide additional information on what the "platform" intends to propose to raise the total height of the site above the flood level in Danube waters.

The solution for protecting the location of the future unit from the floods of the Danube river having the probability of rising of p = 1% is the building of the future plant on the platform with a minimum level of Hmax1%Danube + 0.5 m (protection); HMINIMUM PLATFORM LEVEL = 18.12 mdMN75 + 0.5m = 18.62 mdMN75, solution approved by the location authorization no. 1 of 20.09.2017 issued by ANAR.

In order to build the platform at the level + 18.62 m, it was taken into consideration the usage of a compacted filling made under controlled conditions of local material (brown powdery clay) in a mixture with 2.5% hydraulic binder type ViaCalco.

Compared to the platform perimeter at the level of +18.62 m, the connection to the natural ground was proposed to be made with a slope with inclination of 1:2 that ensures the long-term stability of the platform, including the foundation terrain, without generating significant compaction in the operation stage. In the areas where the connection to the natural ground is over the limit of the land under concession, a support wall of reinforced concrete will be made.

In the location of the plant, the levels of the land vary between 16.12 and 16.82 m resulting a difference between them and the level of 18.62 m of 1.8…2.5 m. At an inclination of 1:2, the slope will vary between 3.6 and 5 m.

By analyzing the manner in which the connection to the levels of the natural ground can be made, it resulted that the biggest part of the perimeter will have a slope of 1:2 and in 3 areas, on the south, west and east sides, support walls of variable height will be built.

The access to the location will be made through some ramps with a slope of 1:10. These will be limited by support walls.

Slope of 1:2

In the areas where the limits of the location permit it, the connection to the natural ground will be made through a slope with inclination of 1:2. A layer 20 cm thick will be ensured with vegetable land and also the sowing of the slope and all the necessary measure to grow plants on it.

Support wall

In the areas where the limits of the location do not allow the connection to the natural ground through a slope, it was proposed to build support walls made of reinforced concrete. The height of these walls was set according to the levels of the natural land to which this is connected, with the addition of 90 cm representing the minimum foundation depth.

Considering the consistency state of the material in the location, it was considered necessary to make a foundation for the support wall on a layer of compacted material (mixture of local material and ViaCalco) with the thickness of 50 cm and the width of 3 m.

On the perimeter of the plant support walls are necessary in the following areas and with the sizes of:

* on the south side, from the area of the access ramp, the support wall will have a height of 3.1 m and a length of 136.60 m;
* on the west side, in the area where the archeological site was set up, the support wall will have a height of 2.7 m and a total length of 41.8 m.
* on the east side, at the intersection with the north limit, the support wall will have a height of 3.4 m and a length of 45.8 m.
* the access ramp on the east side, will be limited on both sides by support walls with the height of 3.2 m and the total length of 47.5 m.

Access ramps of 1:10

The access in the location is made through 3 entrances, 2 located in the south-east corner of the location where a common slope will be built and one in the middle area of the east side. The ramps have the inclination of 1:10.

Stages for the execution of the platform:

* removing the vegetable land on the entire location, but this will be made by areas;
* performing the excavation in the area of the support walls and the compacted filling with the thickness of 0.5 m and the width of 3m;
* execution of the support wall;
* making the controlled compacted filling and ensuring a compacting level of 97% up to the level of +17.82 m (10 cm above the foundation level of the technological locations in the plant);
* making the filling up to the level of +18.62 m on the location perimeter ensuring a width at the ridge of 2 m;
* inside the platform, a filling up to the level of +18.62 m will be made after executing the infrastructure works for the technological objectives in the plant;
* on the green spaces, the last 20 cm will be vegetable land.
* Considering that, in the first stage, the level of 18.62 m will be ensured on the perimeter of the location, during the execution all the necessary measures will be taken to avoid rainwater stagnation by ensuring slopes, making bases and pumping the water from the location.

In accordance with STAS 4273 - 83, paragraph 2.9, table no. 8, the category of hydrotechnical defense constructions for industrial locations of national importance is 2.

According to chapter 5, paragraph 5.1, table no. 13 (definitive constructions of main importance) - the resulting importance class is II.

For class II of importance, STAS 4068/2 - 87 stipulates the proper defense of the location corresponding to the flow with flooding probability of p = 1% plus guard (according to STAS 9268-89 for the dams that ensure protection against floods, the level of the ridge is established at the level corresponding to the calculation flow over which a guard is given depending on the level of importance of the objective) - in this case a guard of 0.50 m is adopted for operating in special conditions.

1. Correct estimate of the noise level during different parts of the day in the nearest residential area of Tutrakan, to be compared with the national rules of the Republic of Bulgaria

Observing the framing of the sound level within the maximum allowed values admitted at the limit of the functional area according to STAS 10009-88.

Noise level at the limit of the functional area:

* Equivalent noise level Lech = 65 dB (A)
* Value of the noise curb CZ = 60 dB

Noise level inside the functional area:

* Equivalent noise level Lech = 70 dB (A)
* Value of the noise curb Cz = 65 dB

Protection against noise and vibrations:

* Avoid, as much as possible, unnecessary collisions, hitting during operations such as: mechanical operations, loading – unloading of raw materials and goods, etc.;
* Organizing the work schedule so as not to have an overlapping of noise generating operations;
* All the noise generators are located in closed spaces and are fixed on the ground to reduce noise and vibrations.

According to Oder no. 6/2006 issued by the Bulgarian authorities in industrial areas, the admissible limit is 70 dB.

Concrete measurements will be made when the equipment is installed at the location, but obviously, they cannot be higher than the limits imposed by the laws in force.

1. Provide more detailed data on surrounding industrial sites, especially those that can lead to a cumulative effect and combined with the future installation

From the data received from the local authorities, namely APM Calarasi, the National Environmental Guard - Călăraşi County Commissariat and Olteniţa City Hall, it appeared that in the vicinity of the investment objective " "Waste Oil Recycling Plant Olteniţa, Calarasi County, "there are no other economic activities that could lead to a cumulated impact on the quality of the ambient air. In view of the above, in the Pollutant dispersion study, which substantiated the impact assessment of the Waste Oil Recycling Factory's activity on the AER environmental factor, within the cumulative impact, the residential activities and road traffic within the Olteniţa district were considered.

From the data received from the local authorities, namely APM Calarasi, National Environmental Guard - County Station of Calarasi and the Town Hall of Oltenita, it resulted that in the vicinity of the investment location “the used oil recycling plant of Oltenita, Calarasi County”, no other economic activities are operated that could lead to a cumulated impact on the quality of the surrounding air. Considering those mentioned above, within the dispersion study of pollutants that constituted the basis for the evaluation of the impact of the used oil recycling plant activity on the environmental factor of AIR, in the context of the cumulated impact, the residential activities and the road traffic on the radius of Oltenita town were also taken into consideration.

1. Table of dangerous substances and mixtures to be present on site, supplemented with the hazard categories and precautionary measures according to the CLP Regulation:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name of the hazardous product/ substance stored** | **CAS no.** | **CLP danger categories** | **CLP precaution phases** | **Classi-fication**  **(1272/ 2008/ EC)** | **Storage place** | **Storage capacity (l)** | **Physical state** | **Handing/ storage manner** | **Storage conditions** |
| **1** | **Used lube oil** | 70514-12-4 | No Category 1  Category 1A and 1B  No Category 2  No Category 3 | No  P301+P310; P405, P501  P201, P308+P313, P405, P501  No  P264, P302+P352  P273, P501 | H227,  H304.  H350,  H336,  H315,  H412 | Metallic storage tank | 5849 | liquid | tank | 4 metallic tanks, capacity 1 x 107 m3 and 3 x 1914 m3 |
| **2** | **Diesel/ light oil** | 64741-77-1 | Category 1 | P301+P310, P405, P501 | H304 | Metallic storage tank | 718 | liquid | tank | Metallic tank with double walls, above ground 1 x 473 m3 and 1 x 245 m3 |
| **3** | **Middle distillate** | 64742-54-7 | Category 1 | P301+P310, P405, P501 | H304 | Condensed metallic storage tank | 186-t | liquid | tank | Two metallic tanks above ground, 1 x 930 m3 and 1 x 934 m3 |
| **4** | **Heavy distillate** | 64741-76-0 | Category 1 | P301+P310, P405, P501 | H304 | Condensed metallic storage tank | 1879 | liquid | tank | Two metallic tanks above ground, 1 x 945 m3 and 1 x 934 m3 |
| **5** | **Heavy lubricating** | 8052-42-4 | Not classified | Not classified | Not classified | Tank | 188 | liquid | tank | 2 tanks x 244 m3 |
| **6** | **Caustic soda** | 1310-73-2 | Sub-categories 1A, 1B, 1C and category 1 | P260, P301+P330+P331, P405, P501 | H314 | Anticorrosive tank | 26,35 | Liquid 32% concentr. | tank | 1 x 54,89 m3 and 1 x 11 m3 |
| **7** | **Hydrogen** | 1333-74-0 |  | P210; P337; P381; P403 | H220  H280 | Water treatment unit | 0,431 | gas | Tanks under pressure, pipes | Tank under pressure |

Following the submission with APM of the Seveso Notification, the company received as reply Address no. 7162/ 07.08.2018 issued by APM Calarasi, the Environmental Garde of Calarasi and the Emergency Inspectorate of Calarasi expressing the fact that after the analysis of the location and the types and quantities of substances to be present on the location, the company does not fit the provisions of Law 59/ 2016 on the controlling of major accidents danger where dangerous substances are involved.

1. It is necessary to supplement tank park information by providing information on the number, type and capacity of each tank and the type of product stored in it

| No. | Product name / hazardous substances stored | Storage place | Storage capacity (t) | Physical status | Storage conditions |
| --- | --- | --- | --- | --- | --- |
| 1 | Used Lube Oil | metallic storage tank | 5849 | liquid | 4 metal tanks, capacity 1 x 107 m3 and 3 x 1914 m3 |
| 2 | Diesel/Light Oil | metallic storage tank | 718 | liquid | metallic tank with double walls, overhead 1 x 473 m3 and 1 x 245 m3 |
| 3 | Middle Distilate | Metallic storage tank condensated | 1864 | liquid | two metallic overground tanks 1 x 930 m3 and 1 x 934 m3 |
| 4 | Heavy Distillate | Metallic storage tank condensated | 1879 | liquid | two metallic overground tanks 1 x 945 m3 and 1 x 934 m3 |
| 5 | Heavy Lubricating | tank | 488 | liquid | 2 tanks x 244 m3 |
| 6 | Caustic Soda | Anticorrosive tank | 26,35 | liquid 32% conc. | 1 x 54,89 m3 and 1 x 11 m3 |
| 7 | Hydrogen | Hydrotreatment unit | 0,431 | gaa | Pressurized vessel |

1. It is desirable that information on the same types of objectives, allegedly operated by the company in other countries, be presented to indicate how far they are located, where there are problems with the spread of unpleasant smells and how they are resolved.

The unit has no operating installations in other countries that can be used for comparison on the generating smells. But if the provisions of the environmental laws in force will be followed and the emissions and immissions monitoring will be performed when the plant becomes operational, there is no negative impact expected on the residential areas.

1. Develop an emergency plan containing, in particular, measures to limit and eliminate the consequences of an accident on site, the authorities responsible for implementing the measures and the procedure for informing the executive authorities, if necessary, disaster protection

The ESI (ISU) Authorization was obtained for fire safety, having no. 81/18/SU-CL on 29.08.2018 for this investment.

For emergency situations, the following measures were stipulated:

Access roads in the plant will be sized so that they allow the access of the fire tankers without having to go back, as well as the easy access of fire trucks in case of fire interventions. For the technological access part and for parking, the width of the road will be that of 6 meters.

In the close vicinity of the main access, a parking lot was stipulated for the working staff cars.

3 gates will be stipulated for access in the location, according to the location plan:

* one main gate for the access of trucks for unloading of the raw material (used oil) and loading of finished products;
* one secondary gate for the access of the working staff;
* one gate for access in emergency situations.

The fire extinguishing and prevention system will cover the entire surface of the investment by installing hydrants networks.

The fire extinguishing installation will comprise:

* a group of fire prevention and extinguishing pumps;
* tanks above ground for the intangible reserve of fire water;
* foam extinguishing system for the tanks in the tank park;
* fire extinguishing water and foam cannons;
* hydrant ring network;
* dry column stipulated for the multi-level structure of the technological installation for processing used oils;
* mobile means for first intervention.

In case of technological installations, gas and smoke detectors will be installed, necessary for the alarm in case of toxic gas leaks and/ or flammable gas leaks and possible fires.

All the buildings will be equipped with an automated system for fire detection by placing smoke detectors in all the rooms and, also, warning buttons will be placed for alarming fire to the working staff.

Framing of the works in the importance class was made as such:

* according to the “Regulation on establishing the importance category of constructions”, annexed to G.D. no. 766/ 21.11.1997, the category of importance for the mentioned location is “C” **(location of normal importance)**;
* according to the “Regulation P100/2013”, from the point of view of earthquakes, the location is characterized by a peak value of the ground acceleration for earthquakes, ag = 0.25 g, with an average interval of recurrence (IMR) = 100 years and a Time corner (Tc) of the response spectrum equal to 1.0 sec. **The class of importance of buildings is class III.**

When the unit becomes operational, the accidental pollution plan will be elaborated containing all the points that are a risk in case of an emergency situation as well as the personnel and equipment that will be used to solve emergency situations and the responsible authorities for the application of the measures and the fire safety authorization will be requested and obtained.

1. The waste to be treated and those generated during the operation of the plant will be classified with six-digit codes in accordance with European / Romanian legislation and their estimated quantities

The types of waste generated will be the following with corresponding waste codes in accordance with the GD no. 856/2002:

* Mixed municipal waste – code 20 03 01
* Paper and carton packaging waste – code 15 01 01
* Plastic material packaging waste – code 15 01 02
* Hydraulic oils with PCB content – code 13 01 01\*
* Other hydraulic oils – code 13 01 13\*
* Other transmission, motor and lubrication oils – code 13 02 08\*
* Other insulating and heat transmission oils – code 13 03 10\*
* Sludge from the oil – water separators – code 13 05 02\*
* Oily water from the oil – water separators – code 13 05 07\*
* Contaminated packaging with hazardous substances – code 15 01 10\*

Used catalysts contaminated with hazardous substances – code 16 08 07\*

The company does not own operational installations to use for comparison in regards to the categories and quantities of waste that will be generated.

When the company becomes operational, a register will be in place for the recording and management of waste according to the regulations of the environment legislation and it will conclude contracts with authorized entities in view of collection, transport and sale/ elimination of the generated waste.