

TO

OBOC-61
20.06. 6

MS. IVELINA VASSILEVA

MINISTER OF ENVIRONMENT AND WATERS

Your ref. no OBOC-61/27.04.2016

Regarding: Investment Proposal for Gravel and Sand Extraction from Alluvial Sediments in the Bed of the Danube River, Mishka Section (462.0 km - 459.4 km), in the area of Babovo Village, Slivo Pole Municipality, Rousse Region

DEAR MS. VASSILEVA,

In connection with the suggestions and remarks on the EIA report of the afore mentioned investment proposal made in letter ref. no 2830/PPP/14.04.2016 of the Ministry of Environment, Water and Forests of the Republic of Romania we are hereby expressing our opinion on the issues raised.

We would like to point out that the remarks made by the Ministry of Environment, Water and Forests of the Republic of Romania are only due to duplication of the word order of the source document. As a result of said duplication some of the translated sentences have acquired a different meaning. Some errors have been made that have led to inaccuracies and incomplete translation of the meaning of the original document.

- ***Tracking the actions of the riverbed in the perimeter area by making an annual observation program (hydro-topographic elevations), and if the mineral resource is exhausted to stop exploitation.***

Extraction of inert materials from the riverbed of the Bulgarian-Romanian section of the Danube dates back more than forty years. Various Bulgarian and Romanian organizations and companies have been extracting alluvial deposits (mostly gravel and sand) over the years for the purpose of production of concrete products and building of embankments to create a better base for various construction works. Extraction of alluvial sediments (dredging) is also periodically performed within the critical areas in order to maintain shipping (navigation) conditions in the Lower Danube.

As stated on page 29 of the file „DOVOS_mishka_2015_k_EN 3”, *Commercial extraction of alluvial deposits is always preceded by geological studies of the area required to prove the presence of alluvial deposits. The riverbed of the Danube from the village Mechka to the village Ryahovo was subject to study in 1964 by PIES "Energoproekt" at the request of the Ministry of Constructions.*

In this regard, we would like to reassure you that the engineering, hydrological, and hydraulic studies and calculations that provide precise information about the positive change in the

hydrological regime of the river in the area as a result of extraction works envisaged in the investment proposal are continuously performed.

Extraction of alluvial sediments by dredging is done periodically within the critical areas to maintain the good shipping (navigation) conditions of the Danube. The investment proposal falls exactly within such a critical area, which is unnavigable due to deposited sediments.

- ***Providing the measures to prevent pollution of the Danube River with oil products as a result of technological equipment operation of extraction and transportation. In case of an accidental pollution to notify the competent authorities and to act as quickly as possible for the decontamination this area.***

The investment proposal envisages extraction of sand and gravel through advanced technological solutions within a particular stretch of the Danube water body. All legal requirements for environmental protection will be complied with. In the event of contamination, the competent authorities will be promptly informed. Contamination of the Danube is not expected if the envisaged technical requirements are complied with. Nevertheless, the following measures will be taken into account:

- Annual inspection of the operations corridor / by vehicle / In order to reduce the risk of accidents.
- provision of special means for elimination of accidental petroleum product spills caused by failed machinery or equipment for extraction or transportation. Emergency equipment and equipment for elimination of petroleum product spills will be stored at strategically located warehouses ensuring quick access to any source of emergency.
- extraction and transportation machinery and equipment will be maintained and repaired regularly to prevent failure and contamination.
- all personnel will receive regular emergency training.

- ***It is necessary that the perimeter to be delimited, throughout the works, by fixed terminal on the shore and floats on the water.***

The perimeter of each separate section will be marked. The extraction area will be divided into ten tracts during extraction operations. Each tract will be delimited by floats anchored along its perimeter.

In order to observe the delineated perimeter, the dredge will collect material at a pre-determined distance from the borders with a view to creating a slope with ratio 1:2.75, i.e. the slope stability angle of the extracted materials in their water-saturated state. This naturally reduces the extraction area and increases shoreline protection against erosion.

- ***Establishment and strict compliance of the navigation channel and of the left bank of the Danube distance protection, the excavated slopes and the maximum depth of excavation do not exceeding the level of Danube riverbed.***

Extraction works will start from tract 1 and track 2 located adjacent to one another along the riverbed on the northern border of the extraction site /the fairway side/. The line following the lower edge of the slope of the slope will overlap with that of the natural slope in compliance

with the requirement for extraction only within the borders of the approved extraction site. Extraction works in each individual tract will be done from east to west (upstream). During extraction of the material in depth, slopes with ratio of 1:2.75 will be formed in order to secure the stability of the riverbed (in the relevant tract) for the performance of extraction and technical works. Shaping of the slopes by increasing the depth will lead to natural reduction of the intake area.

Depending on water levels, extraction works will take place in a lower or upper layer of the developed extraction site. Dredging and extraction of alluvial deposits will be supervised by the Executive Agency for Exploration and Maintenance of the Danube. The technology for extraction of gravel and sand from the Danube is based on the use of floating multi bucket dredger type KS 250, which has no alternative under the existing conditions on site, i.e. 150 mm boulders.

- ***The equipment in the work area to be marked in accordance with specific navigation rules***

State Enterprise "Port Infrastructure" provides information that includes data about navigation and voyage planning through the River Information System. The Executive Agency for Exploration and Maintenance of the Danube is the national authority responsible for approval of electronic navigational charts for the Bulgarian section of the Danube River.

In this regard, all the equipment will be marked in accordance with the specific navigation rules.

- ***Also, it is necessary to demonstrate (by calculations) the estimation of mineral aggregates reserves (3,1 mil.mc) specified on page 12 of the document entitled „DOVOS_Mishka_2015_EN 3”.***

As a result of alluvial exploration in the bed of the Danube carried out back in 2007, the amount of aggregates in the "Mishka-Velovo" section (km 462.0 - km 459.5), Ruse region, was estimated at 3.1 million cubic meters based on calculations.

The calculation of the estimated mineral reserves is of predictive nature as the industrial minerals are dynamic stocks with amounts varying in place and time. The total volume of estimated mineral reserves is calculated by multiplying the average area of the extraction field by the average thickness of the mined layer.

Results from the calculation of the estimated mineral reserves:

- Perimeter of the extraction field along the top of the mined layer of mineral reserves –
 $P_t = 5,340.00 \text{ m}$
- Perimeter of the extraction field along the floor of the mined layer of mineral reserves /altitude 1.0 m/–
 $P_f = 5,206.00 \text{ m}$
- Average perimeter – $P_{av} = \frac{5,340 + 5,206}{2} = 5,273 \text{ m}$
- Average worked-out thickness of the mineral reserve
 $T_{av} = 6.0 \text{ m}$
- Unextracted reserves blocked at the board of the gravel pit:
 $R_b = P_{av} \times T_{av} \times B = 5,273 \times 6.0 \times 17 = 268.9 \text{ thousand cubic metres}$

Estimated mineral reserves equal the expected volumes of ballast materials within the permitted extraction area minus volumes blocked at the board of the gravel pit:

$ER = 3\,639.3$ thousand cubic metres – 268.9 thousand cubic metres = $3\,370.4$ thousand cubic metres

The amount of minerals that can be yielded practically equals the amount of mineral reserves minus operating losses during extraction. Project operating losses amount to 8% of the total amount, including 5% losses during working-out on the bottom and 3% losses caused by washout of boulders of the smallest fraction (0.0 -0.2 mm) during extraction and loading of material onto the barge.

As per project the estimated amount of industrial minerals that can be extracted from the project area while observing all restrictive and obligatory conditions amounts to:

$AR = ER \times Col = 3\,370.4$ thousand cubic metres $\times 0.92 = 3\,100$ thousand cubic metres

Where

$Col = 0.92$ - coefficient taking into account operating losses during extraction equalling 8 per cent.

Given the newly formed island tentatively called "Mishka-3" a new survey with GPS Sistem 900 in RTK mode was conducted in 2013. The resulting data was subsequently processed by leveling of measurements and transformation in 1970 coordinate system. The island was surveyed at an equal distance from all sides with a boat. Movement on the island itself is impossible because of dense vegetation, consisting of willows and 3-4 year-old shrubs. The island is accessible on foot only from a few spots mainly on the east side, where a sand spit has been formed. The extraction area has been adjusted within the approved perimeter and is 100 meters away from Mishka-3 island. The east side is also 100 meters away from Mishka Island (Golyam Mishka-1 and Malak Mishka-2).

The new extraction area is 433,626 sq.m.

Based on the adjusted new extraction area the results have been analyzed and interpreted and the following amounts of mineral reserves and natural resources have been calculated: reserves (222) – 2,475,047 cubic metres, resources (333) – 682,400 cubic metres, with the extractable reserves within the extraction tracts being: reserves (222) – 1,812,869 cubic metres.

In the document entitled "DOVOS,,Mishka_2015_k_EN"

Page 49 : It is necessary to update the information below according to the most recent JDS campaign.

The evaluation, shown in Fig. III.2.3.1.-3 (Plamen Lenov, chief expert EEA-Regional Laboratory - Veliko Tarnovo - Assessment of the Ecological Status of Surface Waters in the Bulgarian-Romanian Border Region of the Danube) uses data from "Final Scientific Report JDS-2."

The assessment of the ecological status of the Danube in the EIA Report on investment proposal for gravel and sand extraction from alluvial sediments in the bed of the Danube river, Mishka section (462.0 km. – 459.4 km.), in the area of Babovo village, Slivo pole municipality, Rousse region was made prior to the publication in 2015 of the Scientific Report JDS-3. Information presented in the assessment of the ecological status of the waters of the Danube River stems from RBMP 2010-2015.

Data accumulated from implementation of the program for water monitoring during the first RBMP, results of monitoring the Danube under the trans-national monitoring program (TNMN), and results from the third expedition to survey the Danube River JDS- 3 (2013) were used for the development of RBMP 2015-2021.

Assessment of the ecological status of surface water bodies for the RBMP update is based on a data set collected through biological monitoring, analysis of physical and chemical indicators maintaining BQE, a group of specific pollutants identified at national level and taking into account the hydro-morphological changes. The presence of a long line of data is a prerequisite for higher level of accuracy of the environmental assessment.

At present implementation of the project "Update of Typology and Classification System for Assessment of Surface Water Bodies Categorized as Rivers, Lakes and Transitional Waters" is not yet finished and the limits of the categories have not yet been validated against BQE.

Also related to the affirmation: „significant impact of dredging activities will be expressed by deepening the river channel in the area where extraction and removal of sediment from the riverbed will be performed. This will cause a temporary change of topography, composition and structure of the sediment of the riverbed”, it is necessary to justify this claim because the gravel and sand extraction is located in the frame of River Water Body (Iron Gates 2 Chlcu), common water body between Romania and Bulgaria. According to the assessment of hydromorphological elements, the above WB is in class 3 - moderate due to morphological conditions (especially on the composition and structure of the river bed), situation confirmed by the results of Joint Danube Survey 3.

There is no mention of significant impact of dredging activities in the EIA Report. This claim has nothing to do with the original document and is hereby refuted by us.

Despite that the area of extraction is 2.6 km long and 300 m wide, comparing with the length of Water Body, due to the significant extraction works in the river 345,000 m³ / year during 8 years of activity, we consider that the impact is not temporary having in view the period of works and the significant quantities extracted.

According to the Convention on the assessment of environmental impact in a transboundary context and the European Convention on landscape management, negative transboundary impacts on the structure and ecological status of the Danubian landscape are not expected. Our EIA report prognosis on the transboundary impact of gravel and sand extraction from alluvial sediments in the bed of the Danube river, Mishka section (462.0 km. – 459.4 km.), in the area of Babovo village, Slivo pole municipality, Rousse region is realistic. It is based on a thorough scientific analysis of existing information on the condition and connections between the individual components and environmental factors and the effects of anthropogenic pressure in the implementation of the investment proposal. Based on the analysis on

preparation, technology of extraction of sand and gravel from alluvial deposits from Mishka section and transporting and unloading of extracted material on the wharf it is concluded that there will be no transboundary impact on the ecological and chemical status of the ambient air, surface and groundwater bodies either on local or regional scale. The analysis of hydrological estimates in the investment proposal demonstrates that the change in water levels after dredging works will be within 1-5 mm for the sleeve between the island and the shores of the relevant tract. The effect can be assessed as negligible; the impact is local and practically will not affect the water level or the river flow. Construction of water intake facilities that would make changes in the overall condition of groundwater or influence the regime of feeding and draining of groundwater is not envisaged. The investment proposal does not provide for the discharge of contaminants in the subsurface or carrying out of activities that would lead to indirect discharge of such. This determines the absence of impact on the chemical status of groundwater. The accurate and objective scientific assessment, made by experts, proves that implementation of the investment proposal is not potentially dangerous and will not affect in an unacceptable way the hydrological regime or ecological status or quality of water. In conclusion, we wish to emphasize that despite the continuous operations at Mishka section and the constant rate of impact on the geological and geomorphological bodies in the riverbed, there is an objective natural ability to maintain the ecological balance within the Danube river bed and adjacent geographical areas.

Proof of this is the large number of geological and geomorphological accumulative bodies that form a "plug" that reduces the conductivity of river flow and hampers navigation. The prepared and scientifically justified EIA report leaves us thoroughly convinced that the implementation of the project in the envisaged area is imperative. It will improve the conductivity of river flow, create favorable conditions for shipping and reduce the risk of floods in the Danube basin. Field studies and the EIA report analysis warrant a positive view of experts on cross-border impacts on the fauna and flora of the natural environment. So far there is no scientific evidence of the negative role of the extraction of inert materials.

Page 50 : For biological elements it is necessary to indicate the status classes according to Water Framework Directive provisions because in the EIA Report uses the expression „environmental status/conditions“. In the same time it is necessary to explain term „biogenic“. Please find below the relevant paragraph;

„The findings are the following:

- a total of 7 stations show abnormal environmental status, 6 of them are in poor and one in very poor environmental condition;***
- lower status is mainly due to BQE assessment of fish and phyto-benthos;***
- lower indices of fish in the lower reaches of the Danube speak clearly for organic pollution;***
- in the case of low phyto-benthos status the reasons are impact influence of biogenic elements and changed features of the watercourse.***

The original EIA Report reads:

The findings are as follows:

- 7 points in total are in abnormal environmental condition, with six of them being in poor and one in very poor environmental condition
- The lowered status is mainly of the assessment as per BQE of fish and phyto-benthos
- Lowered indices per fish in the lower reaches of the Danube clearly indicate organic pollution
- In the event of lowered status per phyto-benthos the reasons are impact influence of biogenic elements and altered characteristics of water flow.

In regard to the term "biogenic" we offer the following explanation:

Carbon /C/, Hydrogen /H/, oxygen /O/, Nitrogen /N/, Sulfur /S/, Iron /Fe/, Phosphorus /P/, and Magnesium /M / are called biogenic elements and constitute 96% of biomass.

Page 52 : In the context of environmental objectives, as well as for other pages where environmental objectives for 2021 are mentioned, we suggest to replace „status" with „ecological potential".

Specific environmental objective for surface water body code BG1DU000R001 is "Preventing deterioration of ecological potential and achievement of good status by 2021. Prevention of deterioration of the chemical status and achievement of good status by 2027." The water body is excepted from achieving certain environmental objectives due to significant anthropogenic impact.

The original text of the EIA Report uses the term *ecological potential*, and not *status*, everywhere, including in the cited environmental objective: **"Preventing deterioration of ecological potential and achievement of good status by 2021. Prevention of deterioration of the chemical status and achievement of good status by 2027."**

In this particular case the word that bears the closest resemblance, and not meaning, has been selected.

Page 110: the same comment as for page 52.

Again as pointed out above the word that bears the closest resemblance, and not meaning, has been selected. The original EIA Report uses the term *ecological potential* and not *status*.

The objectives for environmental protection in respect of the heavily modified body of water of the Danube BG1DU000R001 in the RBMP are as follows:

- Prevention of deterioration of the ecological potential and achievement of good ecological potential by 2021;
- Prevention of deterioration of the chemical condition and achievement of good chemical condition by 2027.

Page 112 : To replace the word „expected" with „has to be"/"have to be" and to add the word „potential", as follows:

„Implementation of the project will not cause negative impacts on the regime and quality of the water body by water intake from the river and through the discharge of wastewater. Extraction works will not affect or cause a negative impact on the cross section of the riverbed - natural coasts, floodplains (sandspits), dykes and water management facilities. Implementation of the project with the strict observance of measures envisaged in it has to be ~~is expected~~ in accordance with the requirements of river basin management plans and measures regarding the Danube. Extraction of alluvial deposits from the river bed will be carried out after authorization by the competent authority, namely the Executive Agency for Exploration and Maintenance of the Danube and subject to the conditions therein. Estimates predict absence of a negative impact on water quality of the Danube in the area of IP. The activities related to implementation of the IP have to ~~be expected to~~ comply with the provisions of RBMP regarding the ecological potential and chemical status of the water body."

The original text of the EIA Report reads as follows: *Implementation of the investment proposal within the extraction area will not cause negative impacts on the regime and quality of the water body through water intake from the Danube or through discharge of wastewater. Extraction works will not affect or cause a negative impact on the cross section of the riverbed - natural coasts, floodplains (sandspits), dykes and water management facilities. Implementation of the investment proposal under strict observance of the measures*

envisaged in it is expected to comply with the RBMP requirements and measures concerning the Danube.

Extraction of alluvial deposits from the river bed will be carried out after issuance of a relevant permit by the competent authority, namely the Executive Agency for Exploration and Maintenance of the Danube and subject to the conditions set forth therein.

Estimates predict absence of a negative impact on water quality of the Danube in the IP area. The activities envisaged in the IP are not expected to come into contradiction with the provisions of RBMP regarding the ecological potential and chemical condition of the water body.

Page 171: The same comment as for page 112 regarding the replacement of word „expected” with „have to be” and adding the word „potential”, as follows:

“Estimates predict absence of a negative impact on water quality of the Danube in the area of IP. The activities related to implementation of the IP have to are expected to comply with the provisions of RBMP regarding the ecological potential and chemical status of the water body.”

The original text uses the term “do not contradict”, and not “expected to”: *Implementation of the investment proposal will not cause negative impacts on the quality, level or regime of the river flow. IP activities do not contradict the RBMP projections as to the ecological potential and chemical condition of the water body.*

In view of the above we agree to add the following sentence: *IP activities must comply with the provisions of the River Basin Management Plan.*

We believe that the above statement answers fully and completely the questions raised by the Ministry of Environment, Water, and Forests of the Republic of Romania.

Respectfully yours:



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Alexander Chakmakov
General Manager
„Sand and Gravel Pits - Bulgaria” EAD
1528 Sofia, № 6 Poruchik Nedelcho Bonchev
tel: 02/ 976 00 70
fax: 02/ 976 00 72