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DELEGATION TO THE REPUBLIC OF SERBIA

Finance and Contracts Section

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CONTRACTING AUTHORITY'S CLARIFICATIONS No. 2

Construction and commissioning of the new Waste Water Treatment Plant at TPP Nikola Tesla B, Obrenovac

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No	Question	Answer
1	In order to offer the best solution, we would be grateful if you could provide us with some relevant information about the New Water Treatment Plant such as: a) The composition of the FGD waste water in terms of temperature, pH, suspended solids, sulphide and chloride content are required (if available also for S1 and S2). b) Detailed information about the available space for the construction (S1, S2, S3) and facilities implementation. c) Is it possible to combine the waste water streams of S1 and S3 or use the discharging water of S3 for ash and slag transport system instead of S2? d) Which chemicals are used to defrost the wagons? e) Commercial availability and use of 20% w/w NaOH instead of 50% w/w, Organosulphide TMT15 and purity of $Ca(OH)_2$ in Serbia.	a) As specified in the tender dossier, there are no available data for the FGD waste water quantities and pollutants characteristics and concentrations. Generally, the waste waters originated from the FGD purge **may have** the following characteristics: • Contain contaminants from coal, limestone and make-up water; • High TDS and TSS; • Elevated heavy metals concentrations; • pH 5.0 to 6.5; • Supersaturated with gypsum-extreme scaling conditions; • High chloride level (10,000 – 50,000 mg/l); • Varying levels of nitrates, nitrites, ammonia; • COD 500 – 1,000 mg/l in the case of use of DBA or un-oxidized sulphite; • Hot water. The FGD's effluents as well as the FGD plants drain / washing waters will be treated in the WWTP/S3 Station. The estimated FGD waste water quantity will be about 15 m3/h per each Unit (see Table 4-2e). Please find information regarding S1 and S2 waste water streams quality in V3_Employer'sRequirements_Annex 2.2 b) Drawings with more details will be provided. c) The S1 and S3 treated water streams will be discharged to the river Sava

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3

		through the existing Collector I. There is no reason to combine S1 and S3 treated water streams. It is not possible to use S3 instead of S2 treated water streams for ash and slag transport system. d) We use heated river water for wagons defrosting without chemicals added e) We can not provide you with this information. The Contractor should explore the market.
2	We want you to verify the following data: 1. Four Waste Water Treatment stations are required 2. Station 1 Oil, Lamella Water Treatment 160 m3/h flow 3. Station 2 Lignite Water Treatment 230 m3/h Flow 4. Station 3 FGD Waste Water Treatment 45 m3/h Flow (3x15 m3/h) 5. Station 4 Sanitary Water Treatment 18,5 m3/h (we have a standard module of 20m3/h) 6. Dosing System Station Total WWT treatment is 355 m3/h *Please verify because tender documents mention 25x106 m3/year which is equal to 3.000 m3/h.* 7. Each Station has a dewatering sludge system, how many sludge do you produce? 8. Point 5.6. page 37 explain demineralised water, please inform us on your production and relative Waster Water. We have a new technology to produce Demineralised water with low energy consumption and no waster water. 9. Which old plants would you like to reuse? 10. Would you prefer a new plant like the old one, or if we have the possibility to suggest new technologies?	1) Yes. Three new stations should be built (S1, S2 and S3) and the fourth should be refurbished (Sanitary waste water treatment facility consisting of two separate units Putox 1 and Putox 2). 2) The Lamella Separator has to be designed to treat a **minimum** oily water flow of 150 m3/h as stipulated in Tender Dossier. 3) Verified. 4) Verified. 5) The task is to refurbish existing treatment facilities. Daily average (max) for Putox 1 is 41.5m3/h and 12.5m3/h for Putox 2, as given in Table 4-2f. 6) Water quantities that have to be treated are given in tables 4-2 for each treatment station (S1, S2,...). Water quantity of 25×10^6 m^3/year is total quantity used in the Power plant. 7) We do not produce sludge because there are no treatment facilities at the moment. 8) We are not interested in new capacities for demineralised water production. The Contractor's obligation is to install some new drainage channels. 9) We are planning to reuse the civil construction part of existing Sanitary waste water treatment plants Putox 1 and Putox 2.

		10) The use of new technologies is expected.
3	It is not possible from the information given in Tender dossier to determine exact locations of origin of the wastewaters inside the Power Plant and in consequence the routes and lengths of pipeline connections between the places where the wastewaters occur and the future treatment facilities. Please provide us with appropriate drawings with all necessary information needed for determination of these connections.	Drawings with more details will be provided. If you find given additional drawings insufficient, you are kindly invited to visit and reexamine the location.
4	It is written in the Employer's Requirements (Volume 3, main document, page 13) that the existing wastewater collection system (channels, pits, pumps, piping) can be re-used to redirect the wastewater streams to the new WWTP facilities. During the site visit held on 15th of May, however, the present potential bidders were told that the existing collection system elements could only partially be used for the new facilities. Please provide us with a drawing with the information on the existing wastewater collection system (routes, geometry and material of pipes and other) and confirm that its current condition fulfils the requirements for integration in the new treatment line.	Drawings with more details will be provided. If you find given additional drawings insufficient, you are kindly invited to visit and reexamine the location. In the Tender Dossier it is clearly stipulated that: "Contracting Authority is happy for the existing equipment used in the waste water streams collection / transport to be part of the new WWTP as much as possible. The Contractor will take responsibility for, and overhaul, any retained existing equipment to a standard commensurate with meeting the guarantee requirements. The exact condition of all existing equipment is a matter for Tenderers to determine by internal inspection in order that they include sufficient costs for plant remediation in their offers. Tenderers are invited therefore to make internal inspections of the existing waste water streams state at the TPP TENT B and, if they wish, to carry out further measurements and waste water samples analysis."
5	1. Can we get the basics for drawings: • Wastewater Balancing Study of EPS TPPs – Nikola Tesla A and B. with Concept Design for construction of WWTP at TPP TENT B; • Preliminary design and Feasibility Study for WWTP at TPP TENT B; • Environmental Impact Assessment Study for TPP Nikola Tesla B; 2. Positions and shapes with dimensions, and if there any layout of new units of S1,	1) These studies, as stipulated in the Tender Dossier, will be handed over to the awarded tenderer. 2) Please see answer No 5/1 above. 3) Please see answer No 5/1 above. 4) Please see answer No5/1 above. 5) Please see answer No5/1 above.

	S2 and S3 in the scale? 3. Bill of quantities for basic design? 4. Intersection points (connections beetween old and future installations) in scale? 5. We need drawings of the existing buildings in the scale with the description of objects and a list of objects? 6. We need from basic design the drawing "future situation" of S1, S2 and S3 in scale, with all future anticipated objects? 7. Is it possible to change the suggested method of water treatment, which is explained in the tender? 8. Will there be treatment of the Boiler's blown down waste water in Section S1? 9. Is there enough space in the electrical cabinets for installation of additional equipment for supply power of S1, S2, and S3? 10. Is there a project documentation of existing lighting installation, outlets, lightning conductors, and electrical drive systems for monitoring and control? 11. Will SCADA for plants S1, S2 and S3 be a fully independent system? 12. The composition of the FGD waste water in terms of temperature, pH, suspended solids, sulphide and chloride content are required (if available also for S1 and S2). • At least (S3): Temperature, suspended solids, sulphate, magnesium, chloride, heavy metals (Cu, Zn, Ni, Hg, Cd, etc), Fe and Al. 13. Detailed information about the available space for the construction (S1, S2, S3) and facilities implementation. 14. Is it possible to combine the waste water streams of S1 and S3 or use the discharging water of S3 for ash and slag transport system instead of S2? 15. Which chemicals are used to defrost the wagons? 16. Commercial availability and use of 20% w/w NaOH instead of 50% w/w, Organosulphide TMT15 and purity of Ca(OH)2 in Serbia.	6) Please see answer No5/1 above. 7) Yes. Please refer to V3_Employer's requirements / Section 8.1 General. 8) No. This correction of the Tender Dossier will be published on our website. 9) Please refer to V3_Employer's requirements / Section 9.7 Electrical equipment and installations. If it is insufficient, you are kindly invited to visit and examine the location further. 10) There is no project documentation of existing lighting installation, outlets, lightning conductors and electrical drive systems for monitoring and control. 11) Please refer to V3_Employer's requirements / Section 9.8 Instrumentation and control 12) Please see question & answer No.1. a) 13) Please see answer No.3. 14) Please see question & answer No.1. c) 15) Please see question & answer No.1. d) 16) Please see question & answer No.1. e)