Belgrade, 18/01/2017

**CONTRACTING AUTHORITY’S CLARIFICATIONS No. 1**

**"NOx emission reduction at the TPP Nikola Tesla Unit A4"**

**Publication ref: EuropeAid/137765/IH/WKS/RS**

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| **No.** | **Question** | **Answer** |
|  | How to obtain the tender dosser? | Please refer to the Contract Notice, Article 18: "*The tender dossier is available for collection from the Contracting Authority at 3-5 Sremska St, office 701, VII floor, Belgrade, Republic of Serbia on CD-ROM, free of charge. Opening hours of the Contracting Authority: 8:30 – 15:00 CET, Monday to Friday…* *".*In order to obey the principles of equal treatment and transparency, Contracting Authority cannot send tender dossier by post/courier services or via e-mail. There is no possibility to collect the tender dossier at the site visit. Courier services cannot be authorized to collect tender dossier. There is no electronic version of tender dossier that could be downloaded. Any person representing potential tenderer can obtain tender dossier at premises of the Contracting Authority, free of charge. No authorization or power of attorney is needed. |
|  | The company has the following question regarding the system required in the tender: should it be Selective catalytic reduction (SCR) or non-catalytic. | Measures need to be “Primary“ (inter alia, also indicated under section „Subject of procurement“, p. 1/47 and1.3., p.4/47, Vol 3.).Selective catalytic reduction (SCR) not allowed.If "non-catalytic" means Selective non catalytic reduction (SNCR), then SNCR is not allowed. |
|  | Volume 1/Section 1/Instructions to Tenderers/Item 12.1.1.1.: “The prices in Volume 4 are deemed to have been set on the basis of the conditions in force 30 days prior to the deadline for submitting tenders.”Please specify the nature of the conditions mentioned. | The tender procedure is governed by the Financial Regulation and the DEVCO Practical Guide to financial and contractual procedures (PRAG). The quoted text is standard part of the PRAG template included in every tender dossier published. |
|  | Volume 1/Section 1/Instructions to Tenderers/Item 12.1.1.1.: „Note: Provision of the following information/documents (text in italic below) concerning personnel is mandatory only for the contractor, i.e. your tender is not required to comprise following information:The Contractor shall propose the following personnel, whose complete documentation, details and proof documents (CVs, copies of diplomas/degree and employer`s certificates) shall be submitted to the Contracting Authority after the contract is signed. These personnel must be subject to the approval of Contracting Authority before the commencement date...”Does it mean that Tenderer is not obliged to submit the form 4.6.1.3.-Professional Experience of Key Staff-CV within the Bid for each of the experts? Does it mean that Tenderer is obliged to submit only the Form 4.6.1.2.-Staff to be employed within the Contract, with very basic data as requested? What is the consequence if the Contractor could not provide requested staff after the Contract is signed? What is the consequence if the Contractor submits different staff comparing to the staff proposed within the Bid?What is the consequence if the detailed CVs submitted by the Contractor after Contract is signed are not according to the Bid requirements? | The Form 4.6.1.3 - Professional Experience of Key Staff, Curriculum vitae is to be submitted by successful tenderer.The Form 4.6.1.2 - Staff to be employed on the contract shall be submitted as a part of the tenderer. Concerning approval of the key staff, actual decision can be made only following assessment of all underpinning information provided by the contractor.At the time of contract signature the tenderer should make sure that the bid as submitted does not differ from the one submitted and evaluated since this would entail the changing of the bid. The Contractor should be able to provide the staff as required in the tender dossier at the contract signature.The CV to be submitted should be in accordance with the bid requirements.About consequences of failure by the contractor to execute contractual responsibility, please refer to the Particular and applicable FIDIC conditions of contract, Clause 15.1.  |
|  | Volume 1/Section 1/Instructions to Tenderers/Item 12.1.: „The tenderer must indicate whether this equipment is owned, hired or used by a subcontractor”.Does it mean that the Form 4.6.2.1. should be filled in for Subcontractors as well? Does it mean that subcontractor can itself own and/or hire the equipment? | It is sufficient to indicate in the form 4.6.2.1 submitted by the tenderer whether particular equipment is owned, hired or used by a subcontractor rather than submitting separate form filled in by sub-contractor(s). |
|  | Volume 1/Section 4/Form 4.6.3.1.:“The Tenderer may specify up to three sub-suppliers which can-not be replaced during the project execution”.Does it mean up to three sub-suppliers per Item (Re-heater 2, Evaporator Pressure Parts, etc) or three sub-suppliers in total for all the items? | The Tenderer shall specify the equipment not manufactured by himself. The Tenderer may specify up to three sub-suppliers per Item, which cannot be replaced during the project execution. |
|  | Volume 1/Section 1/Instructions to Tenderers/Item 12.1: „Modifications, if any“Which modifications are accordingly admissible? Please clarify. | Any modification to the tender documents issued during the tendering period are admissible. |
|  | Volume 1/Section 1/Instructions to Tenderers/Item 12.1.11: „Relevant employee (i.e. Site Manager) must possess or being in a position to obtain prior to the commencement date the necessary professional licenses as required by the relevant Serbian law on Planning and Construction and other relevant legal provisions”.AndVolume 1/Section 1/Instructions to Tenderers/Item 12.2.: “Please note that before the contract commencement date the tenderer must demonstrate that he possesses proper company licenses according to the Serbian Law for the engineering and construction works”.Please, consider that those two requirements are not compliant to related Serbian Law on Planning and Construction. We understand that the Bidder must have within his proposed staff a Site Manager that is in possession of the required license, but is not the Company itself that has to be licensed accordingly. Please, confirm and clarify. | Prior to the commencement date tenderer and relevant staff must possess proper licenses according to current applicable the Serbian Law on Planning and Construction and other relevant underlying legal regulations. |
|  | Volume 1/Section 1/Instructions to Tenderers/ Item 4. Only one tender per Tenderer: „The same company may only participate as subcontractor in different tenders if that is justified by the specific nature of the market and cleared by the Contracting Authority”.What does it mean “…if that is justified by the specific nature of the market”? How this will be assessed and certified? When will this be assessed and confirmed? Does it mean that a certain company needs to obtain written approval during clarifications to participate in different tenders as a subcontractor?Please, clarify. | The tender procedure is governed by the Financial Regulation and the DEVCO Practical Guide to financial and contractual procedures (PRAG). The quoted text is standard part of the PRAG template.In this particular procedure, there is no specific nature of the market to allow participation of the same Company as subcontractor in different tenders. |
|  | Volume 1/Section 1/Instructions to Tenderers/ Item 14. and 15:Does it mean that Bidder should submit a Tender Guarantee for following validity:90 days as for Tender Validity (14.1)+max 40 days for potential validity extension (14.2)+45 days for period beyond bid validity (15.2) = 175 days total Tender Guarantee Validity? If not how many days in total shall the tender guarantee be valid?Please, clarify. | In Volume 1, Section 3, TENDER GUARANTEE FORM, states that "the guarantee will be released at the latest within 45 days of expiry of the tender validity period, including any extensions, in accordance with Article 15 of the Instructions to Tenderers [and in any case at the latest on (one year after the deadline for submitting tenders)]" where text in brackets should be inserted only where required, for example where the law applicable to the guarantee stipulates a precise expiry date or where the guarantor can justify that he is unable to provide such a guarantee without expiry date.Therefore, in respect of guarantee validity period, please strictly adhere to the standard wording provided in respective template. Also, please note that order of precedence of the documents will be respected as stated in the article 2 of the Contract form. |
|  | Volume 1/Section 1/Instructions to Tenderers/ Item 17.2: „The technical and financial offers must be placed together in a sealed envelope. The envelopes should then be placed in another sealed envelope/package, unless their volume requires a separate submission for each lot”.It is not quite clear: Does it mean that technical offer should be placed in a separate sealed envelope (1 original and 5 copies), the financial offer should be placed in another separate sealed envelope (1 original and 5 copies), and then together to be placed in the common sealed envelope/package?Or,Original (Financial and Technical offers) together in one sealed envelope, Copies (Financial and technical offers) together in second sealed envelope. Then, both envelopes in common envelope/package.Please, clarify. | Original (Financial and Technical offers) should be placed together in one sealed envelope. However, depending on the volume, they can be placed in several sealed envelopes. Copies (Financial and technical offers) should be placed in another sealed envelope or several envelopes, depending on their volume. Originals and copies should be than placed in one or more sealed envelopes (boxes). |
|  | Volume 1/Section 1/Instructions to Tenderers/ Item 22. Evaluating Tenders: „The Contracting Authority reserves the right to ask a tenderer to clarify any part of its tender that the evaluation committee considers necessary to evaluate it. Such requests and the responses to them must be made in writing….The Contracting Authority reserves the right to check information submitted by the tenderer if the evaluation committee considers it necessary”.Will the above mentioned clarifications filed by the Contractual Authority towards any part of tenderer’s bid as well as the related Bidder’s responses be published? | The clarifications requested by the Contracting Authority will be sent to the each individual Tenderer regarding the necessary clarifications as to their submitted bid by e-mail and the related Tenderer’s response will be sent to the Contracting Authority by e-mail or by post, as requested. Therefore, neither the request for clarification nor the response will be published. |
|  | Volume 3. Employer’s Requirements and Volume 5. Designed Documents including Drawings:In order to be able to prepare the best technical and financial offer and therefore support the subjected project on the best way leading to the best performances, please clarify/comment/confirm/provide answers/documentation needed for the following: • Attachments: 1. Tesla A4\_TTQs\_2016-11-14: Technical Questions• Attachments: 2. Tesla A4 Request for Additional Documents | Regarding the requests stated in Attachment: 1. Tesla A4\_TTQs\_2016-11-14: Technical Questions, please refer to answers from No.15 to No. 34.Regarding the requests stated in Attachment 2. Tesla A4 Request for Additional Documents please refer to answers to questions from No.52 to No.55. |
|  | Volume 1. Section 1: Instructions to tenderers: Item 3.6. The upper limit for subcontracting is 30% of the value of the tender.Does this mean that the overall value of all subcontractors shall be limited to 30% of the contract value, or does this mean that the 30% limit applies only to each single major subcontractor (who provides more than 10% of contract value to the main contractor)? Is there a different definition of subcontractors and of sub-suppliers (for minor components and equipment, raw materials, services, etc.)? How this Item apply to members of consortium and the consortium itself? Does the 30% limit applies to the single consortium member, or does the 30% limit apply to the overall contract value? Please clarify. | The upper limit for subcontracting to the subcontractors is 30% of the value of the contract. This value is aggregated value for all subcontractors.For exact definition of the term “sub-contractor”, please refer to FIDIC General Conditions of Contract, Sub-Clause 1.2.8. Tenderer (sole tenderer or joint venture/consortium as a whole) must carry out at least 70% of the value of the Contract Works by his own resources.  |
|  | **Baseline Test and Site Visits**For giving guarantees on performance parameters for retrofit projects on plants which were already in operation it is necessary to base technical calculations on a set of operation data, which are determined by measurements in operation, so called "Baseline tests". The baseline tests should provide the baseline data specified in the attachment "Tesla A4 Request for additional Documents" and could be done before tender submission or alternatively the baseline data the proposal is based upon had to be assumed, given with the proposal and confirmed by a baseline test after contract award, but before technical design. - Is a common baseline test scheduled during the tender time? - If not, is it possible to execute an own Baseline Test during Tender Time with a third party of X´s choice? - Please confirm that an asbestos free environment (< 500 fibres/m³) is ensured during a possible execution of a Baseline Test as well as during general site visits - Is the 5th of December 2016 the only possible date for site-visit or can additional site-visits be considered? | - Base line test: End Recipient is planning regular internal testing of the boiler immediately before unit shutdown for overhaul, to verify the “general state” of the boiler plant and its individual parts prior to the major unit overhaul. Considering the dates of planned tests, End Recipient will be able to make the investigation results available to the selected bidder once the investigations have been completed, if deemed necessary. The said investigation results (values of individual parameters investigated) may be used by the bidder only for information purposes, not as designing inputs. The values obtained during investigations will have no impact on the guaranteed values of parameters from Volume 3 Table 1 (point 3.1 “Performance value which shall be fulfilled by the Contractor”).End Recipient has no plans (considering that it is winter time), and provisions have also not been made in its production plan, to allow potential bidders to execute own baseline tests.- End Recipient confirms “asbestos free” operating environment (< 500 fibres/m³)- Only one mandatory site visit is foreseen, as per Article 13 of the Contract Notice. Additional site visits will not be organized. In the case of a consortium it is sufficient that at least one member of the consortium has participated to the site visit and the corresponding attendance certificate is included in the offer. |
|  | **Current Operational Data/Baseline data**Please provide a full set of current operational data, including fuel properties etc. (separate list of required information issued as attachment 2, namely TeslaA4\_Request for additional Documentation). | Regarding the requests stated in Attachment 2. Tesla A4 Request for Additional Documents please refer to answers from No.52 to No.55. |
|  | **Additional Drawings**Please provide additional drawings to optimize the technical solution: - PID of Firing System (Mills, Burners, Flue Gas Resuction etc.) and PID of Water Steam Cycle - Hot Air injection into Flue Gas Resuction Ducts - Drawings of Steel Structure, buckstays etc. - Drawings indicating the environment around the boiler between +40m and +60 m - see also separate list of required information issued as attachment 2, namely TeslaA4\_Request for additional Documentation) | Preparation of the PID is part of the Bidder’s obligation (point 7.1.1.5 Volume 3).Hot Air injection into Flue Gas Resuction Ducts: drawing attached, please refer to Annex 2 and Annex 5 to Clarifications No.1Drawings of steel structure, buckstays: Precise indication necessary, for which zones and on which elevations; also, precise indication of steel structures.Drawings indicating environment will be available to the successful Tenderer, if required. During the site visit, the Tenderers were able to inspect the Unit A4 boiler environment inside the zones of the specified elevations.Regarding the requests stated in Attachment 2. Tesla A4 Request for Additional Documents please refer to answers from No.52 to No.55. |
|  | **Additional Technical Information**Please provide - characteristic fan curve of FD and ID fans - design data sheet of feedwater pump and current feedwater pump performance (operational data) - see also separate list of required information issued as attachment 2, namely TeslaA4\_Request for additional Documentation) | - For FD fans curves please refer to Annex 3 to Clarifications No.1For ID fans curves please refer to Annex 1 to Clarifications No.1- “Design data sheet” which feedwater pumps will have after the Unit A4 revitalisation is not available. NOTE: *the said feedwater pumps will meet the basic operating parameters from the attached HBD*. For existing feedwater pumps – without buster pump, operational data, Q-H curve is attached, please refer to Annex 6 to Clarifications No.1- Regarding the requests stated in Attachment 2. Tesla A4 Request for Additional Documents please refer to answers from No.52 to No.55. |
|  | **Coal properties for design considerations**Please provide information on the following coal properties:1.Volatile Matter (VM) content of Design Coal, as well as the VM range to be considered2.Ash properties to be considered for design (ash composition and ash-fusion properties)3.Nitrogen content to be used for Design Coal4.Range of Oxygen content in Ultimate Analysis5.Chlorine content of coal (range)6.Xylith content of raw coal | As part of the tender documentation, End Recipient has already made available all the official data in its possession, regarding the coal characteristics (point 4.1 Chemical composition of coal in „raw“ condition (p. 13/47, Volume. 3))1. Data for volatile matter values: data not available.2. The requested analysis for ash properties: data not available.3,4. Nitrogen and Oxygen values for the Design coal – Summary data attached in the tender documentation Volume 3 point “*4.1 Chemical composition of coal in „raw“ condition”*.5. Data for chlorine content of coal are not available.6.Data for Xylith content of raw coal are not available.  |
|  | **Important Operational Data and technical information**Please provide following operational data/technical information as follows:1.Thermal input at 920 t/h steam production, i.e. coal massflow at given LHV of the fuel2.O2-content upstream RAPH at 920 t/h at conditions of item 13.Current burner air ratio4.Gas-temperature and volume flow at mill outlet at 920 t/h5.Information if Secondary Air temperature is equal to hot air temperature (277°C, at which load)6.Mills: Is rotational speed of 550 min-1 fixed to 550 or variable?maximal pressure built-up of the ventilator mill?"7.Mill grinding quality (R1000, 550 upm) is given to be 11 - 17%. corresponding figures on 200µm-screen and 90µm screen? And is it at 920 t/h?8.Residual moisture (after milling)9.Amount of FGR to mills by resuction ducts (% of total flue gas or kg/s)10.Operational data (load, fuel data, NOx, UBC, O2 in flue gas etc.) for load point 920 t/h 11.Is the furnace equipped with cleaning devices, i.e. soot blowers or water cannons?12.What is the Primary Air flow at load 920 t/h (5 mills in Service)?13.Can a certain additional pressure drop in the pc ducts be applied? Please provide this information to ensure the mill output is not negatively affected? Please provide relevant mill performance diagrams which shall be considered by the bidders. | Important Operational Data and technical information:Technical parameters necessary to design the LNOx system are contained as part of the tender documentation. “Operational data” requested, are operating parameters changing over time, archived by the Unit A4 control system. The following information: 1.Technical data (thermal input at 920 t/h steam production, 2.O2-content upstream RAPH at 920 t/h at conditions of item 1, 3.Current burner air ratio, 4.Gas-temperature and 5. Information if Secondary Air temperature is equal to hot air temperature (277°C), will be made available to the successful Tenderer, if requested.NOTE: Technical data from the unit control system may only be used for information purposes – NOT as designing inputs.6. Mills: Rotational speed of mills is variable, not fixed.the parameters regarding maximal pressure built-up of the ventilator mill: not available 7. Mill grinding quality at max. mill capacity:R200= 43,3-44,2R90= 62,3-64,31R500= 23,98-25,078. Residual moisture: 15-17% (after milling), data referring to max. mill capacity9.The parameters regarding amount of FGR to mills by resuction ducts: not available 10. The parameters UBC for load point 920 t/hnot available Volume flow: 170.480-172.870 Nm3/h referring to max. mill capacity11. Soot blowers will be installed during Unit A4 revitalisation, elevations 51 and 53 m).12. No primary air measurements on the boiler. Therefore, data are not available (see point 29 - “Hot air measurement”).13.This is a question of Tenderers technical proposal which must be in accordance with Volume 3 Mill performance diagrams are not available at this stage |
|  | **PC ducts**What is the current condition of the pc ducts (wall thickness)? Can they be kept if technical concept does not require a re-design of the pc ducts? | PC ducts are exposed to abrasion during operation and their state will be determined during defect identification, i.e. once Unit A4 has been stopped for overhaul.If PC ducts are not part of the proposed design solution of the Bidder (see Volume 3 point 7.1.3.1. “Deliverables“, sub-point III), the existing pc ducts can be retained. However, damaged segments of the said ducts will be replaced by End Recipient, as part of the regular overhaul activities. |
|  | **Conditions for Performance Guarantees**Volume 3, Chapter 3What are the conditions for the single performance guarantees (given in Table1): Make Good, Liquidated Damages or else? | Contractor shall guarantee the achievement of ALL the parameter values, from table 1, in two operating modes of the unit: nominal steam flow of 940 t/h and at steam flow of 650 t/h. Please refer to Volume 2, Section 3 FIDIC Particular Conditions clause 12.4. Conditions for the testing of achieved parameter values are more detailed defined in the Section 11 of Volume 3. |
|  | **Pressure Guarantee before HP turbine**Volume 3, Chapter 3Is it requested to provide this guarantee although most of the mechanical hardware influencing this value (e.g. feedwater pump, steam piping, feedwater heaters, heating surfaces etc.) is outside of the LoWNOx project scope?Please provide relevant data set to assess the current situation (current pressure levels in water-steam cycle up to HP turbine @ 920 t/h, relevant information on piping conditions etc). | Pressure guarantee before HP turbine is requested from the Bidder to avoid pressure disturbance before HP turbine during the Bidder’s works, to be achieved by End Recipient after unit revitalisation in line with the attached HBD.Please refer to answer No.20 („Important Operational Data and technical information“), paragraph 2.Technical parameters necessary to design the LNOx system are contained as part of the tender documentation. “Operational data” requested, are operating parameters changing over time, archived by the Unit A4 control system. |
|  | **Mill Capacity Guarantee**Volume 3, Chapter 3The Bidder has no influence on mill capacity, because mill modifications are not foreseen in the scope of the bid. Therefore the only influence on the mill is by modification of operation parameters; their influence only may be determined on the basis of mill measurements before modificaition of the mills. | The technical solution of the Bidder for the facility section after the mill may reduce the current mill capacity. Mill capacity value guaranteed by the Bidder is the minimum permissible value (90 t/h, Table 1, p. 12, 13/47, Volume 3). End Recipient cannot accept mill capacity reduction below this value caused by the technical solution of the combustion system as part of the Bidder’s design. |
|  | **Boiler Efficiency Guarantee**Volume 3, Chapter 3Please provide information and data sets indicating the currently achieved boiler efficiency (@ 920 t/h) | We do not possess recent official data.End Recipient is planning regular internal testing of the boiler immediately before unit shutdown for overhaul, to verify the “general state” of the boiler plant and its individual parts before the major unit overhaul. Considering the dates of planned tests, End Recipient will be able to make the investigation results available to the selected bidder once the investigations have been completed, if deemed necessary. The said investigation results (values of individual parameters investigated) may be used by the Bidder only for information purposes, and not as designing inputs. The values obtained during investigations will have no impact on the guaranteed values. |
|  | **Temperature at Furnace Outlet Guarantee**Volume 3, Chapter 3What are the conditions for this guarantee? Is an average value of the furnace cross-section to be guaranteed? How will this guarantee be tested in the Performance Test (who is providing appropriate measurement systems and access to the furnace etc.)? Or is this value to be proven by re-caclulation with contractor´s firing/thermal model? | All guarantee tests and appropriate measurement procedure are foreseen in line with the method defined under Section 11 of Volume 3 “Test on Completion and Test after Completion” and the indicated standards, legal regulations of Serbia. This also goes for the measurements in question.Temperature at Furnace Guarantee will be determined by Contractors measurement.The Contractor shall provide access to the furnace. |
|  | **Rotary Air Heaters (RAPH)**Is it considered to perform a major overhaul of the RAPHs outside of the LowNOx project scope?Please provide data sets indicating the current performance of the RAPHs. | Regular RAPH overhaul activities are foreseen.Requested data vary during unit operation and depend on various operating conditions. Such data can be made available to the successful Tenderer from the Unit A4 control system archives for the agreed time interval (operating interval). |
|  | **Min Load**What is the minimal allowable flow through the evaporator? | Minimal allowable flow through the evaporator is 320 t/h. |
|  | **Hot Air Measurements**Volume 3, Chapter 2.5 - Please confirm: Hot air to Flue gas resuction ducts (so called primary air) is measured for each mill - Is air flow to burnout grate measured? Is hot or cold air used? | Primary air – No direct air flow rate measurements for each mill (quantities determined indirectly)Burnout grate air is measured. Hot air is used. |
|  | **Boiler leakage**Volume 3, Chapter 4.2 and chapter11.3bIs the boiler leakage of < 20% to be ensured/guaranteed by the contractor?Are the 20% boiler leakage referring to the overall air flow or the overall excess air (i.e. lambda\_leakage =0,2)?Are performance guarantees to be achieved on specific boiler leakage data? Note: the leagake will be influenced also by equipment out of the scope of current low-Nox tender. | The foreseen activities on other boiler plant sections (outside of the subject contract) which have to be conducted during the major overhaul, demonstrate that the Employer will ensure the total boiler plant leakage of <20%. As part of its proposed solution, for sections influencing the total boiler leakage, the Bidder shall provide technical solutions not affecting the requirement of boiler leakage being lower than 20% (lambda (λ)\_leakage ≤0,2). |
|  | **Performance Tests**Volume 3, Chapter 11.4Please confirm: for Test B (Test after Completion), only Emissions (CO, NOx) have to be manually measured, i.e. no assessment of Boiler Efficiency will be performed. | We confirmed that during Test B (Test after Completion) CO, and NOx emissions have to be measured according Volume 3 point 11.3. The assessment of Boiler Efficiency will not be performed during Test B.  |
|  | **Serbian Regulations**Volume 3Please provide the following standards and regulations (in english) which are referenced in the RfQ:Offical Gazette of the Republic of Serbia - 5/2016 (incl. Annex I) - 6/2016 (incl. Annex VI) - 36/2009  - 87/2011 - 101/2005 - 91/2015 | Provision of the requested standards and regulations is not in the scope of the Contracting Authority responsibility. |
|  | **Correction Curves**Volume 3, Chapter 11.3What correction curves are accepted for Boiler Efficiency? Typically, the following correction curves for boiler efficiency are considered as this is influenced by systems outside of the scope of the LoNOx project: - ambient conditions - coal moisture and ash (only if outside of specified coal range) - feedwater temperature - cold reheat pressure and temperature | Under the tender documentation, no correction curves are acceptable for boiler efficiency.Boiler efficiency shall be calculated in line and in the manner defined by the standard SRPS EN 12 952-15, i.e. in the manner indicated under point 11.3, sub-point a), p. 42/47, Volume 3. |
|  | **Burnut Grate and Deslagger**What is the mechanical condition of the burnout grate? Is the Air flow to the burnout grate measured and how is the air to burnout grate controlled? Is it hot or cold air?Please indicate current UBC (unburned carbon) figures in fly ash and slag.What is the deslagger type (dry or wet ash removal)? | General overhaul of the burnout grate and deslagger has been foreseen. Therefore, the mechanical condition of these boiler plant parts will be satisfactory.For air: See refer to answer No.29.UBC in fly ash and slag –parameters for UBC not available.Deslagger type: wet. |
|  | We would like to ask you to send us the tender dossier to the address below. | Please refer to the Contract Notice, Article 18: "*The tender dossier is available for collection from the Contracting Authority at 3-5 Sremska St, office 701, VII floor, Belgrade, Republic of Serbia on CD-ROM, free of charge. Opening hours of the Contracting Authority: 8:30 – 15:00 CET, Monday to Friday…* *".*In order to obey the principles of equal treatment and transparency, Contracting Authority cannot send tender dossier by post/courier services or via e-mail. There is no possibility to collect the tender dossier at the site visit. Courier services cannot be authorized to collect tender dossier. There is no electronic version of tender dossier that could be downloaded. Any person representing potential tenderer can obtain tender dossier at premises of the Contracting Authority, free of charge. No authorization or power of attorney is needed. |
|  | We are emissions reduction specialists who specialise in retrofit applications such as the one requested at your site and we are interested in participating in your tender “Serbia-Belgrade: IPA — NOx emission reduction at the TPP Nikola Tesla Unit A4 2016/S 206-372442”.I have some questions that I am hoping you can help answer.1. Is it possible for you to send through any drawings you have of the boiler and burner?2. Can you confirm your current fuel specification?3. Can you provide some information on your operational performance? With regards to commercial qualification can you please advise how best to proceed as our average annual turnover for the last 3 years does not quite meet the €12M requested but is ~€11.3M on average. This is based on the interbank rate as the link in the open notice does not work (<http://ec.europa.eu/budget/inforeuro/>index.cfm?Language=en).Our total turnover in the last 3 years has been £29M (€34M), if a pre-Brexit exchange rate was used then we would comply. Alternatively we could look to partner with another company as we have done on other projects.With regards to the meeting on the 5th December, is this the only date available or would it be possible to visit on another date?Also is it possible to obtain the tender dossier electronically? | 1. Drawings of the boiler and other parts of the plant have already been provided in the tender documentation.2. We confirm the coal characteristics representing designing inputs, provided in Table 2, point 4.1 “Chemical composition of coal in “raw” condition”, p. 13/47, Volume 3.3. The attached graphical and numerical documentation satisfies all preconditions to prepare a quality offer . Additional parameters will be made available to the selected bidder upon request, if in End Recipient possession.With regard to commercial qualification, please note that the contracting authority cannot give a prior opinion on the assessment of the tender, as stated under section 5.3.4. of PRAG.Only one mandatory site visit is foreseen, as per Article 13 of the Contract Notice. Additional site visits will not be organized. In the case of a consortium it is sufficient that at least one member of the consortium has participated to the site visit and the corresponding attendance certificate is included in the offer. Please note that the "…tenderer will need to register for the site visit at the latest on 02/12/2016 until 14:00h CET writing to: nemanja.isailovic@mre.gov.rs, ilija.cairovic@eps.rs...".Please refer to the Contract Notice, Article 18: "*The tender dossier is available for collection from the Contracting Authority at 3-5 Sremska St, office 701, VII floor, Belgrade, Republic of Serbia on CD-ROM, free of charge. Opening hours of the Contracting Authority: 8:30 – 15:00 CET, Monday to Friday.* *Tenders must be submitted using the standard tender form included in the tender dossier, whose format and instructions must be strictly observed.**Tenderers with questions regarding this tender should send them in writing to e-mail:* *cfcu.questions@mfin.gov.rs**or postal address:**Ministry of Finance**Department for Contracting and Financing of EU Funded Programmes (CFCU)**Sremska 3-5 St, VII floor, office 701**11000 Belgrade, Republic of Serbia**(mentioning the publication reference shown in item 1) at least 21 days before the deadline for submission of tenders given in item 19. The Contracting Authority must reply to all tenderers' questions at least 11 days before the deadline for submission of tenders. Eventual clarifications or minor changes to the tender dossier will be published at the latest 11 days before the submission deadline on the EuropeAid website at* [*https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?do=publi.welcome*](https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?do=publi.welcome) *and on the website of the Contracting Authority (CFCU) at* [*www.cfcu.gov.rs*](file:///J%3A%5C2%20Februar%202015%5Czatvori%5CTender%20works%5CAppData%5CLocal%5CTemp%5CTemp1_TDW%20BAJMOK.zip%5CTDW%20BAJMOK%5CGeneral%20Documents%5Cwww.cfcu.gov.rs)*."*In order to obey the principles of equal treatment and transparency, Contracting Authority cannot send tender dossier by post/courier services or via e-mail. There is no possibility to collect the tender dossier at the site visit. Courier services cannot be authorized to collect tender dossier. There is no electronic version of tender dossier that could be downloaded. Any person representing potential tenderer can obtain tender dossier at premises of the Contracting Authority, free of charge. No authorization or power of attorney is needed. |
|  | Could you please provide answer if potential bidder will need to have signed PoA for the Site visit at TPP Nikola Tesla Unit4 on 5th of December 2016.?In case PoA is needed and potential bidder will be Consortium, is it allowed to have one signed PoA related to Consortium leader or all Consortium members will have to obtain certificate that they had site visit? | The person attending the Information meeting and Site visit, shall provide the appropriate authorization in which is stated that he/she represents stated company. In order to enter at the TENT A4 person attending the Information meeting and Site visit shall also have the valid passport (for foreign citizens) or ID (for Serbian citizens) himself/herself.In the case of a consortium it is sufficient that at least one member of the consortium has participated to the site visit and the corresponding attendance certificate is included in the offer.Please note that the tenderer will need to register for the site visit at the latest on 02/12/2016 until 14:00h CET writing to: [nemanja.isailovic@mre.gov.rs](file:///C%3A%5CUsers%5Cnemanja.isailovic%5CDesktop%5Cnemanja.isailovic%40mre.gov.rs), ilija.cairovic@eps.rs, as stated in the Contract Notice, Article 13. |
|  | In document: d4b\_itt\_en from Volume 1 Section 1 in point 12.2.1 is written: ***Technical and professional capacity of candidate:*** 1) The tenderer must have completed as prime contractor at least 1 (one) contract with a value of at least EUR 4,000,000, including the design, fabrication, delivery, erection and commissioning of DeNOx system erected into existing boiler units in Lignite Power Plants, capacity minimum 200 MW, which was completed at any moment during the past 8 (eight) years from the deadline for submission of tenders. The Contract will be taken into consideration, only if it refers to DeNOx system which successfully achieved the level of NOx emission to meet at least the standards laid down in Council Directive 2010/75/EC. We would like to ask you to change this point into: ***Technical and professional capacity of candidate:*** 1) The tenderer must have completed as prime contractor at least 1 (one) contract with a value of at least EUR 4,000,000, including the design, fabrication, delivery, erection and commissioning of DeNOx system erected into existing boiler units in **Coal** Power Plants, capacity minimum 200 MW, which was completed at any moment during the past 8 (eight) years from the deadline for submission of tenders. The Contract will be taken into consideration, only if it refers to DeNOx system which successfully achieved the level of NOx emission to meet at least the standards laid down in Council Directive 2010/75/EC.  | The provisions of the Volume 1, Section 1, Instructions to tenderers, d4b\_itt\_en, point 12.2.1, Technical and professional capacity of candidate, remain unchanged. |
|  | Tender guarantee according to the Tender should be valid 90 days + 45 days + extension period. In document Tender guarantee form (Volume 1, Section 3) is written “and in any case at the latest on (one year after the deadline for submitting tenders“. Please give us clear information what is the validity of Tender guarantee. | Please refer to answer No.10. |
|  | „Commencement Date“ means the date of Contract signing? | "Commencement Date" means the date notified under Sub-Clause 8.1 of FIDIC GCC and PCC. |
|  | Taking-Over Certificate for the Works means the date of Time for Completion? | "Taking-Over Certificate" means a certificate issued under Clause 10 of FIDIC GCC and PCC. |
|  | General Requirements for Insurance - At the end of Sub-Clause 18.1 add: “Requirements are given in Annex II of Particular Conditions” – where is “Annex II of Particular Conditions”? | We confirm the error. In the Volume 2, Section 3, FIDIC Particular conditions, General Requirements for Insurance, text "At the end of Sub-Clause 18.1 add: “Requirements are given in Annex II of Particular Conditions”" is deleted.Please note that provisions of the FIDIC General conditions, Clause 18 remain unchanged. |
|  | We would like to insert In Volume 1, section 3 “Tender guarantee form” the following sentence “For identification purposes, please, send us your written payment claim containing the above mentioned declaration through your bank, confirming the authenticity of signatures on the said request” and delete last sentence “The guarantee will enter into force and take effect from the submission deadline of the tender“– tender guarantee is valid from the date of its issue. | Tender Guarantee form provided in the Tender Dossier, Volume 1, Section 3 must be strictly followed. |
|  | Questions to the points 1.13. (b)« the Contractor is exempted from payment of taxes, duties and fees« and 14.1.i) »The Contractor is exempted from VAT and from import duties, on Contract items of Goods into the Country, in accordance with Serbian Law«. * Could you please confirm that subject of tender (i.e.  subject of Contract ) is VAT exempted in Serbia according to Serbian VAT Act and that subject of  tender is also exempted from import customs duties and import VAT in Serbia when imported? Could you please indicate for us concrete stipulations (articles, §§) of VAT Act valid in Serbia and provide text of these law stipulations, according which the subject of tender is VAT exempted in Serbia and/ or exempted from import customs duties and import VAT in Serbia when imported?
* Could you please confirm that Contractor in respect to subject of tender (i.e.  subject of Contract)  is exempted from payment of any taxes, duties and fees (different from VAT) in Serbia. Could you please indicate for us concrete stipulations (articles, §§) of tax laws valid in Serbia and provide the text of law stipulations according which the subject of   tender is exempted from payment of any taxes, duties and fees in Serbia.
* Could you please confirm that the overall subject of tender shall be exempted from VAT and any taxes, duties and fees in Serbia regardless the way of financing of subject of tender (e.g. when financing: % EBRD + % own resources), i.e. will be VAT exempted only part of subject of tender, which shall be financing from EBRD sources?
 | The procedure for exempting EU-financed projects from VAT, regarding the Instrument for Pre-Accession Assistance, has been established with regard to:1. The Law on Ratification of the Framework Agreement between the Government of the Republic of Serbia and the Commission of the European Communities on the rules for cooperation concerning EC financial assistance to the Republic of Serbia in the framework of the implementation of the Instrument for Pre-accession Assistance (IPA), ratified by the National Assembly of the Republic of Serbia on 26 December 2007 ("Official Gazette of the Republic of Serbia” no. 124/07 dated 26 December 2007),2. The Law on Value-added Tax ("Official Gazette of the Republic of Serbia” no. 84/04 , 86/04, 61/05, 61/07, 93/12, 108/13, 68/14, 142/14, 83/15),3. Rulebook on the manner and procedure for VAT exemption with and without the right of deduction of previous tax (published in the “Official Gazette of the Republic of Serbia" no. 124/04 dated 19 November 2004, no. 140/04 dated 31 December 2004, no. 27/05 dated 24 March 2005, no. 54/05 dated 24 June 2005, no. 68/05 dated 04 August 2005, no. 58/06 dated 07 July 2006, no. 112/06 dated 15 December 2006 and no. 63/07 dated 09 July 2007 and No. 120 dated 21 December 2012, No 86 from 14 October 2015),4. Financing Agreement for each IPA Programme signed between the Republic of Serbia and the European Commission |
|  | Questions to the point 14. 1. ii) “The Contractor shall prepare the necessary exemption and other documents in accordance with the Laws of the Country as well as further amendments and modifications, the requirements of customs and other legally constituted authorities, and any other reasonable requirements of the Employer. The Contractor shall be entirely responsible for the presentation of documentation in order to clear the Goods through the customs authorities, and shall be deemed to have been satisfied (before submitting the Tender) as to all relevant procedures”* What kind of exemption and which documents to be prepared by Contractor do you mean by "necessary exemption and other documents in accordance with the Laws of the Country as well as further amendments and modifications, the requirements of customs and other legally constituted authorities, and any other reasonable requirements of the Employer"?
* Could you please describe in detail the process of VAT exemption in Serbia for subject of tender (i.e. approval of VAT exemption, invoicing) and what kind of obligation in this process shall have i) Employer and ii) X as the Contractor in the process of VAT exemption?
* Which party shall X issue its invoices for subject of tender to -  to a) Contracting Authority Ministry of Finance or b) End Recipient PE EPS?
* Do you mean by sentence "The Contractor shall be entirely responsible for the presentation of documentation in order to clear the Goods through the customs authorities" that X as the Contractor shall be only responsible for presentation of documentation needed to clear the goods through the customs authorities to Contracting Authority/End recipient when goods are imported in Serbia?
* Could you please confirm that not X, but Contracting Authority/End Recipient shall be responsible for import clearance process of Goods in Serbia in accordance with agreed DAP Obrenovac?
 | Please refer to answer No.44. |
|  | Y would like kindly to remind you on Requests for Additional Information raised with regards to Tender Documentation Ref. No. Europe Aid/137765/IH/WKS/RS. Y Requests for Additional Information were rasied (submitted by e-mail as well as by the post) as the First and the Second Clarifications Package, respectivly on 14th of November 2016. and on 18th of November 2016., according to Volume 1, Section 1: Instruction to Tenderers.However, Y hasn’t received yet neither any of kindly requested additional information answer nor any of technical data crutial for appropriate and precise calculations needed for the final success of the dedicated project.Furthermore, our representatives who attended mandatory Site Visit held on 05.12.2016. were suprised by the situation of TPP Nikola Tesla A was not aware of the Requests for Additional Information raised by Y three weeks before the Site Visit Date, as well as with missing Clarification Meeting, understood as with aim to clarify Tender Document.We would like to emphasize that our experience on similar projects worldwide as well as EU Delegation IPA Projects, does show the timely providing Clarifications Answers and information needed, all with aim of future securing a successful project. | Please refer to the Contract Notice, Article 18: "… *The Contracting Authority must reply to all tenderers' questions at least 11 days before the deadline for submission of tenders. Eventual clarifications or minor changes to the tender dossier will be published at the latest 11 days before the submission deadline on the EuropeAid website at* [*https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?do=publi.welcome*](https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?do=publi.welcome) *and on the website of the Contracting Authority (CFCU) at* [*www.cfcu.gov.rs*](file:///J%3A%5C2%20Februar%202015%5Czatvori%5CTender%20works%5CAppData%5CLocal%5CTemp%5CTemp1_TDW%20BAJMOK.zip%5CTDW%20BAJMOK%5CGeneral%20Documents%5Cwww.cfcu.gov.rs)*.”.*As pointed out at the information meeting, any question related to technical and legal aspect of tender dossier and site inspection must be submitted in writing to the addresses listed in the tender dossier. The Contracting Authority will issue official answers at the addresses indicated in the Contract Notice and Tender Dossier in line with the deadlines listed therein and only these answers shall be considered as official answers of the Contracting Authority.With reference to your Requests for Additional Information – the First and the Second Clarifications Package, submitted respectively on 14th of November 2016. and on 18th of November 2016., we would kindly ask you to submit Technical Questions on Tender Published Specification for additional Documentation in the form of list of the questions, as you have already done in the Request for additional information concerning Tender Documents. The Contracting Authority may not process tenderers` checklists. |
|  | Annex 2 to Vol. 1 Sect. 2 – Tender Form, and Vol. 2 Sect. 3 - Particular Conditions of Contract, Sub-Clause 1.4 (Law and Language). In order to minimize the barriers for international contractors taking part in your tender procedure, we kindly ask you to grant your approval to change the governing law of the contract from Serbian law to a neutral law, e.g. Swiss law. | The provisions of Volume 1, Section 2 Tender Form, ANNEX 2 -APPENDIX TO TENDER FOR A WORKS CONTRACT, and Volume 2, Section 3, FIDIC Particular Conditions, Sub-Clause 1.4 remain unchanged. |
|  | Vol. 1 Sect. 1, Chapter 12.2.1.3) – “The Lead partner in a consortium/joint venture must be able to carry out at least 50% of the value of the contract works by its own resources/means.” Could you please clarify if the aforementioned sentence means that the consortium leader must have min. 50% share in the total scope of this project? Or is the sentence related to the consortium leader’s share in formerly executed references? | The lead member of a consortium/joint venture must be able to carry out **at least 50 %** of the contract works using its own means. |
|  | Vol. 2 Sect.3, Annex 1 – Is it possible to directly disburse payments from the European IPA II funds to the Contractor? Furthermore, in case of a consortium, is it possible to have separate payments to each consortium member or is it mandatory to receive all payments on just one account? | Payments under this contract will be executed solely by the Contracting Authority to the Contractor on the account indicated by the Contractor in the Financial identification Form.  |
|  | Volume 3, 7.Subject and scope of works and delivery; In point 7.1.3.1 “Deliverables” the refractory structures, insulation works and adaptation of steel structures are not mentioned. Does this mean that the contractor shall only perform technical design for these items and they are foreseen to be delivered by Employer or others in behalf of the employer or end recipient, or are these contained in item “XI Other necessary things, defined by technical solution and design, so that the system for reduction of nitrogen oxides emission would operate smoothly”?. | In line with point 7.1.3.1 “Deliverables”, sub-point XI, p. 23/47, Volume 3, the Contractor shall deliver all equipment and parts in addition to the ones indicated under points I – XV Volume 3, covered by the Contractor’s technical solution/design. It means that the refractory structures, insulation works and adaptation of steel structures are part of Deliverables if they are part of technical solution design. |
|  | Volume 3. Employer’s Requirements and Volume 5. Designed Documents including Drawings:In order to be able to prepare the best technical and financial offer and therefore support the subjected project on the best way leading to the best performances, please clarify/comment/confirm/provide answers/documentation needed for the following: • Attachments: 1. Tesla A4\_TTQs\_2016-11-18: Technical Questions• Attachments: 2. Tesla A4 Request for Additional Documents – Update 18.11.2016 | Regarding the requests stated in Attachment: 1. Tesla A4\_TTQs\_2016-11-18: Technical Questions, please refer to answers from No.15 to No. 34.Regarding the requests stated in Attachment 2. Tesla A4 Request for Additional Documents please refer to answers from No.52 to No.56. |
|  | **Requested Fuel Parameters (Baseline Data for Retrofit)** The following parameters shall represent Client´s expectations on Fuel characteristics for the requested Retrofit Value for Design Coal / Requested Range:**Design Parameters/Range for Coal*** Volatile Matter
* Ash analysis (oxide analysis)
* Ash melting temperatures (IDT, ST, HT, FT)
 | Design Parameters/Range for Coal:* For Volatile Matter, please refer to answer No. 19
* For Ash analysis (oxide analysis), please refer to answer No.19
* Ash melting temperatures (IDT, ST, HT, FT): Data not available.
 |
|  | **Requested Operational Data (Baseline Data for Retrofit)** If possible, the following process parameters should be provided for three load points (full load, medium load, min load) Proposed way is to provide the documentation of recent Baseline Tests or Boiler Efficiency Calculations performed by a certified institutionIf current Process Data from the DCS system are provided, please ensure steady state operation (no load or mill changes etc.) of at least 2-3h for each load point Design Values/Current Operation (e.g. DCS-Data)/Grid Measurement **Water/Steam System** ● Feedwater temperature● Feedwater pressure ● All available steam temperatures●Live steam mass flow, pressure (absolute or gauge) and temperature at boiler outlet ●Reheat mass flow, pressure (absolute or gauge) and temperature at inlet ●Reheat mass flow, pressure (absolute or gauge) and temperature at outlet ●Steam temperatures before and after superheaters and reheaters●Injection massflows of the desuperheaters●Temperatures before and after desuperheaters ●Economizer mass flow, pressure (absolute or gauge) and temperature at boiler inlet ●Economizer pressure (absolute or gauge) and temperature at outlet ●Mass flow through economizer (if an Economizer bypass is used) ●Drum working pressure (absolute or gauge) **Air System** ●Pressures before and after FD-Fan●All pressures in air system downstream of FD-Fan (if available)●Air temperatures and pressures before and after Air Preheater(s) ●Air flow after final Air Preheater●Air flow to ash-hopper or burn-out grate (if any) ●Air flow to Flue Gas Recirculation Duct, including Hot Air, Cold air, Sealing Air (if any) ●Air flow(s) to burners, including Secondary air to pf burners, oil/gas burners, ignition burners etc.●Cooling air flow(s) to burners out of service, including pf burners, oil/gas burners, ignition burners etc.●Estimation of False Air (if available) **Flue Gas System**●Pressures before and after ID-Fan●All available flue gas temperatures in the boiler ●Recirculated flue gas to mills, including (if available) flow and temperature O2-content flow split to burners, mills, OFA etc. ●Process parameters before and after air preheater, including O2 and CO2 concentrations Temperature Pressures●Emission parameters of the boiler, including CO, NOx, SOx, O2, H2O concentrations (before/after flue gas treatment if available) Dust (before/after ESP if available) **Mill System** ●Recirculated flue gas to mill (flow and temperature, if available)●All air flows to mills ●Sieve analysis of mill product●Residual moisture of mill product●Classifier Temperature ●Pf distribution (balance) to the single burners/pc ducts **Firing System** ●Coal flow (from calibrated feeder signal) ●Coal analysis, including Heating value, Proximate Analysis (incl. Volatile Matter), Elementary Analysis (C, H, O, N, S, Cl, F), Ash analysis (oxide analysis),Ash melting temperatures (IDT, ST, HT, FT) ●Unburned Carbon (UBC) in Fly Ash●Unburned Carbon (UBC) in Slag●Ash split (Fly Ash/Slag)  | Water/Steam System● Feedwater temperature* Existing Design: 248° C, ECO inlet
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

● Feedwater pressure * Existing Design: 228,5 bar
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

● All available steam temperatures* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Live steam mass flow, pressure (absolute or gauge) and temperature at boiler outlet * Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Reheat mass flow, pressure (absolute or gauge) and temperature at inlet * Existing Design: Data not available
* Current Operation: Data not available

●Reheat mass flow, pressure (absolute or gauge) and temperature at outlet * Existing Design: Data not available
* Current Operation: Data not available

●Steam temperatures before and after superheaters and reheaters* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Injection massflows of the desuperheaters* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Temperatures before and after desuperheaters* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Economizer mass flow, pressure (absolute or gauge) and temperature at boiler inlet * Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Economizer pressure (absolute or gauge) and temperature at outlet * Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Mass flow through economizer (if an Economizer bypass is used) * Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Drum working pressure (absolute or gauge)* Existing Design: No drum
* Current Operation: No drum

Air System ●Pressures before and after FD-Fan* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●All pressures in air system downstream of FD-Fan (if available)* Existing Design: Data not available
* Current Operation: Data not available

●Air temperatures and pressures before and after Air Preheater(s)* Existing Design: Data not available
* Current Operation:Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Air flow after final Air Preheater* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Air flow to ash-hopper or burn-out grate (if any)* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Air flow to Flue Gas Recirculation Duct, including Hot Air, Cold air, Sealing Air (if any)* Existing Design: Data not available
* Current Operation: Data not available

●Air flow(s) to burners, including Secondary air to pf burners, oil/gas burners, ignition burners etc.* Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Cooling air flow(s) to burners out of service, including pf burners, oil/gas burners, ignition burners etc.* Existing Design: Data not available
* Current Operation: Data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Estimation of False Air (if available)* Existing Design: Please refer to Volume 3, Section 4.2
* Current Operation: Please refer to answer no. 20

Flue Gas System●Pressures before and after ID-Fan * Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●All available flue gas temperatures in the boiler * Existing Design: Data not available
* Current Operation: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

●Recirculated flue gas to mills, including (if available) flow and temperature * Existing Design: Data not available
* Current Operation: Data not available

O2-content * Existing Design: Data not available
* Current Operation: Data not available

flow split to burners, mills, OFA etc. * Existing Design: Data not available
* Current Operation: Data not available

●Process parameters before and after air preheater, including O2 and CO2 concentrations * Existing Design: Data not available
* Current Operation and Grid Measurement : Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

Temperature * Existing Design: Data not available
* Current Operation and Grid Measurement : Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

Pressures* Existing Design: EPS: Data not available
* Current Operation and Grid Measurement : data not available

●Emission parameters of the boiler, including CO, NOx, SOx, O2, H2O concentrations (before/after flue gas treatment if available) * Existing Design: Data not available
* Current Operation and Grid Measurement : Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

Dust (before/after ESP if available)* Existing Design: Data not available
* Current Operation and Grid Measurement: Such data can be made available to the successful Tenderer from the Unit A4 DCS (control system) archives

Mill System ●Recirculated flue gas to mill (flow and temperature, if available)* Existing Design: Data not available
* Current Operation: Data not available

●All air flows to mills * Unclear question

●For Sieve analysis of mill product, please refer to answer no. 20●For Residual moisture of mill product, please refer to answer no. 20●Classifier Temperature * No Classifier

●Pf distribution (balance) to the single burners/pc ducts* Existing Design: Data not available
* Current Operation: Data not available

Firing System ●Coal flow (from calibrated feeder signal)* Existing Design: Data not available
* Current Operation : Data not available

●Coal analysis, including Heating value, * Existing Design: Please refer to answer No.19
* Current Operation: Data not available

Proximate Analysis (incl. Volatile Matter),* Existing Design Please refer to answer No.19
* Current Operation :Data not available

Elementary Analysis (C, H, O, N, S, Cl, F),* Existing Design Please refer to answer No.19
* Current Operation :Data not available

Ash analysis (oxide analysis),* Existing Design Please refer to answer No.19
* Current Operation :Data not available

 Ash melting temperatures (IDT, ST, HT, FT)* Existing Design Data not available
* Current Operation Data not available

●Unburned Carbon (UBC) in Fly Ash * Existing Design Please refer to answer No.34
* Current Operation: Data not available

●Unburned Carbon (UBC) in Slag* Existing Design Please refer to answer No.34
* Current Operation: Data not available

●Ash split (Fly Ash/Slag)* Existing Design Please refer to answer No.34
* Current Operation: Data not available
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|  | **Requested Documentation (Data Sheets, Functional Descriptions, Instructions etc.)**The following documentation is required for each boiler/device and shall represent the current situation/installation Design Data/Functional Description/Operational Instruction: **Fans** ●FD-Fan: characterisitc fan curve ●ID-Fan: characterisitc fan curve  | Fans ● For FD-Fan: characteristic fan curve, please refer to answer No.18 ● For ID-Fan: characteristic fan curve, please refer to answer No.18 |
|  | **Requested Drawings** The following drawings are required for each boiler and shall represent the current situation/installationDifferences between drawings and the current installation should be highlighted by the Contractor. This includes but is not limited to  - Dimensions - Angles  - Materials The drawings should be provided in proper quality Arrangement Drawing/Assembly Drawing/Detail Drawing **General Arrangement** ●Cross sectional Views, including Front Wall, Rear Wall, Side Walls Plane Views of all available levels, especially for levels between +40 and +60 m (for possible OFA system installation)●Soot blower locations ●Auxilliary equipment locations (fans, oil stations etc.)**Steel Structure** ●Boiler steel structure ●Boiler Framing (buckstays etc.) ●Secondary Steel structure (platforms, stairs, podests ...)**Burners** ●Main burners and air nozzles, Design data (if available). Are PC Burner Design Data (velocities etc.) available? ●Supporting system of burners **Air Ducts** ●Primary Air ducts to Flue Gas Recirculation Ducts **Flue Gas Recirculation** ●Flue Gas recirculation ducts●Flue Gas resuction duct head **PIDs and Flow Diagrams** ●Firing System ●Milling System ●Air System ●Flue Gas System ●Water/Steam System  | General Arrangement ●Cross sectional Views, including Front Wall, Rear Wall, Side Walls Plane Views of all available levels, especially for levels between +40 and +60 m (for possible OFA system installation): Such data can be made available to the successful Tenderer in regards to his technical solution●For Soot blower locations, please refer to answer no. 20●Auxiliary equipment locations (fans, oil stations etc.): Such data can be made available to the successful Tenderer in regards to his technical solutionSteel Structure ●For Boiler steel structure, please refer to answer No.17●For Boiler Framing (buckstays etc.), please refer to answer No.17 ●For Secondary Steel structure (platforms, stairs, podests ...), please refer to answer No.17 Burners * Main burners and air nozzles: Data not available
* Supporting system of burners: Such data can be made available to the successful Tenderer in regards to his technical solution

 Air Ducts ● For Primary Air ducts to Flue Gas Recirculation Ducts, please refer to Annex No.2 and Annex No.5 to Clarifications No.1 Flue Gas Recirculation ●Flue Gas recirculation ducts is out of project scope●Flue Gas resuction duct head is out of project scope PIDs and Flow Diagrams ● For Firing System, please refer to answer No.17● For Milling System, please refer to answer No.17● For Air System, please refer to answer No.17 ● For Flue Gas System, please refer to answer No.17● For Water/Steam System, please refer to answer No.17 |
|  | **Requested Drawings** The following drawings are required for each boiler and shall represent the current situation/installationDifferences between drawings and the current installation should be highlighted by the Contractor. This includes but is not limited to  - Dimensions - Angles  - Materials The drawings should be provided in proper quality Arrangement Drawing/Assembly Drawing/Detail Drawing: **Burners****●**Arrangement of burners on furnace wall(s), including Tangential arrangement ●Burner-Wall sealing system, Details of connection point between burner and wall●Load points (x, y, z) of the PC Burners **Air Ducts** ●PC duct routing, including parts lists (if available), only assembly drawing available so far ●Existing supporting system of the PC ducts●Load points (x, y, z) of the PC Ducts**Flue Gas Recirculation**●Arrangement of Mills and Coal Feeders●Furnace Wall panels, including General dimensions, Tube diameters, pitches, wall thicknesses, Materials, front, rear, left and right wall●Wall openings for burners, including pf burner openings**Thermal Expansion**●Information on Thermal expansion (x, y, z) with O point**Insulation**●Information on existing boiler insulation, incl. thicknesses, design data etc.●PC Burner Refractory, incl. material specification if available | Burners●For Arrangement of burners on furnace wall(s), including Tangential arrangement, please refer to TD (Volume 5) ●For Burner-Wall sealing system, Details of connection point between burner and wall, please refer to TD (Volume 5)● For Load points (x, y, z) of the PC Burners, please refer to TD (Volume 5)Air Ducts ● For PC duct: only assembly drawing available, please refer to TD (Volume 5)● Drawings for Existing supporting system of the PC ducts, can be made available to the successful Tenderer ●Load points (x, y, z) of the PC Ducts: data not available Flue Gas Recirculation●Arrangement of Mills and Coal Feeders* Out of project scope

●Furnace Wall panels, including General dimensions, Tube diameters, pitches, wall thicknesses, Materials, front, rear, left and right wall, please refer to TD (Volume 5 and Volume 3, point 2 “Description of the existing plant status”).●Wall openings for burners, including pf burner openings, please refer to TD (Volume 5)Thermal Expansion●Information on Thermal expansion (x, y, z) with O point* Unclear question

InsulationInsulation (existing)Mineral wool:* Mineral wool is in the form of pillows, quilted on one side with the galvanized wire mesh on mercury netting of galvanized wire.
* Bulk density: 100 ± 10% kg/m3
* Thermal conductivity ratio (λR): 0,040 W/m, SRPS U.12020
* Application temperature (T): up to 700°C (51612) DIN
* Reaction to fire: class A1, EN 13501-1
* Insulation identification according to AGI Q 132: 12.06.02.66.10
* Water repellency: AS quality (according to AGI Q 135, without added silicon).
* Thermal conductivity at mean temperature:

|  |  |
| --- | --- |
| Ts (°C) | Λ (W/mK) |
| 50 | 0,039 |
| 100 | 0,046 |
| 150 | 0,054 |
| 200 | 0,064 |
| 250 | 0,075 |
| 300 | 0,088 |
| 350 | 0.103 |
| 400 | 0,119 |
| 450 | 0,137 |

●PC Burner Refractory, incl. material specification if available* PC burners have to be replaced with new ones, according to Volume 3 (point 7.1.3.1, IV), so the burners refractory and all other burner materials are parts of proposed bidder’s technical solution.
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ANNEXES TO CONTRACTING AUTHORITY’S CLARIFICATIONS No.1:

Annex No.1: Q-H curve, ID Fan/ Qh - dijagram vdg 3 i 4-

Annex No.2: - Hot Air injection into Flue Gas Resuction Ducts/ 1 KK 490 758 - ROZDELOVACI KUS-CEVOVOD

Annex No.3: Q-H curve, FD Fan /VSV - bl.A3,A4-

Annex No.4: Cold and Hot Air General Arrangement / CRTEZ BROJ 20 - DISPOZICIJA HLADNOG I TOPLOG VAZDUHA BLOKA 3\_4\_5

Annex No.5: Hot Air injection into Flue Gas Resuction Ducts/1 KK 490 761 - ROZDELOVACI KUS-CEVOVOD-

Annex No.6: Q-H curve Feed water pump /Napojna pumpa SULZER\_5742 01\_kriva A4-