Republic of Serbia

MINISTRY OF FINANCE

Department for Contracting and Financing of EU Funded Programmes (CFCU)

Belgrade, June 2, 2021

CONTRACTING AUTHORITY'S CLARIFICATIONS No. 3

"Construction of Gas Interconnector Serbia-Bulgaria on the Serbian territory"

Tender Ref. n.: NEAR/BEG/2021/EA-OP/0032

Note: The Contracting Authority intends to postpone the deadline for submission of tenders. Corrigendum shall be published in OJS in the following days. Please regularly check official TED eTendering website and CFCU website at *http://www.cfcu.gov.rs/tenderi.php*.

No.	Question	Answer
1.	Subject: Detailed Design Description: At the bottom of Sheet 5 from the Technical Specifications (TS) is stated "Works shall be carried out according to, in order of precedence, Specifications, Drawings and the Detail Design. After Contract signing, Detail Design will be delivered in the digital copy to the Contractor". There is an misunderstanding in the statement. Normally, the Project construction should be carried out in accordance with the Detailed design, developed by the Contractor on the basis of the Project specifications and the FEED/Technical Design. In this regard we kindly ask you to clarify the next: 1. Was the Design for Building Permit done by CLIENT (Contracting authority)? 2. Does a future CONTRACTOR have to develop the Detail Design for Construction stage of project? 3. Was the Building Permit obtained for whole pipeline including non linear facilities?	1. Please refer to the Clarifications No. 2, Answer No. 27. 2. Please refer to the Clarifications No. 2 Answer No. 27. 3. The Building Permit (i.e. Construction Permit) has been obtained for whole pipeline including nonlinear facilities.
2.	Subject: Crossing method	1. Meaning of "Deflation" in the List of crossings in the Technical specification is

	Description: In the list of pipeline crossings with other infrastructure, buildings and installations (Sheet 79-Sheet 100 from TS) there are two crossing methods- open trench and deflation. It is not quite clear what the meaning of "deflation" is. At the same time on Sheet 255 and Sheet 256 from the Technical Specifications (TS) is stated "Crossing can be performed in three ways: Excavation - open trench method, by the inducement method, HDD method - oblique directional drilling, Direct pipe method". In this regard we kindly ask you to clarify the next: 1. What does «deflation» method mean and which of the three methods listed on page 255 and 256 does it correspond to? 2. We suppose that "deflation" method means Direct pipe method. Please confirm. 3. Will it be allowed to change the crossing method based on actual conditions or specified methods for certain crossing in the bid documentation is unchanged solution?	Thrust boring method. The Deflation method corresponds to "by inducement method". 2. We do not confirm. The Deflation method does not mean Direct pipe method. Please refer to the answer above. 3. It will not be allowed to change the crossing method. The provisions of the Technical Specifications and the Drawings remain unchanged.. The tender has to be fully in compliance with specific requirements defined within the Technical Specifications and all of the provisions of the tender dossier.
3.	Subject: Strength and Leak Testing Description: The sub-paragraph 1 on Sheet 138 states: "After installation, gas pipeline must be subjected to strength and leak tests. Before testing the installation must be thoroughly cleaned by air blowing. Tests are carried out under pressure which is in compliance with standard SRPS EN 12327". At the same time sub-paragraph 26 states: "Before tests the gas pipeline should be cleaned using pigs driven by compressed air. Pig should be equipped with calibrating plate, which diameter should be 98% of the internal diameter of the pipe in the section with the thickest wall. Calibration pig structure must be approved by expert supervisor, and calibrating plate must be sent to inspection by the Contractor before and after every pass of the pig through the pipeline". That means two methods of cleaning are imposed before testing. Normally the pipelines are cleaned by pigs prior the testing.	Only one cleaning method is required. Before the final testing, pipeline will be cleaned only by using pigs driven by compressed air as described in Volume 3, Technical Specifications, page 139, sub-paragraph 26.

	Please clarify do we need to use both mentioned cleaning methods prior the testing of any pipeline section?	
4.	Subject: Strength and Leak Testing Description: The sub-paragraph 5 on Sheet 138 states: "Before installing the insulation and immediately after welding, the gas pipeline must be leak tested. Tests are carried out with 6 bar compressed air ". It is an unusual requirement. Please advise a reference document (code, standard etc.) where the requirement is described in details?	Tests are to be in compliance with standard SRPS EN 12327 and "Rule book for undisturbed and safe transport of natural gas by gas pipeline pressures higher than 16 bar" Official Gazette of RS no. 37 / 2013-24, 87 / 2015-73.
5.	Subject: Road Crossings Description: In Table 1 (Overview of the position of pipeline in the state roads, orders I/IIB and I/IIA) on Sheet 271 there is a column, titled "Length of working pipe in the road plot". There are several crossings with lengths 0,0 or much less in that column than length of protection pipeline. Please clarify what does "Length of working pipe in the road plot" mean and how is length of working pipe 0,0 possible?	Please find clarification of the used terms: Length of protective pipe in the road plot – is equal to the length of the working gas pipeline with protective pipe in the road plot. Length of working pipe in the road plot – is the length of the working gas pipeline without protective pipe in the road plot. **When working pipe is with the protective pipe all along the road plot - the length of working pipe is 0,0m.** Length of the protective pipe can be longer than the lengths specified in the Table 1 (Overview of the position of pipeline in the state roads, orders I/IIB and I/IIA) - **because the table is given just for the lengths inside the road plot.**
6.	Subject: Gas pipeline crossing with large water courses Description: The Basic Data on Sheet 419 stipulates: · Gas pipeline working pressure – 74 bar. · Pressure when testing for strength – at least 92,5 bar (max. 1 h); · Pressure when testing for tightness – at least 74 bar (max. 24 h); There is a mismatching in the information above and the requirements indicated on Sheet 102 of the	Please refer to Volume 3, Technical Specifications. The accurate data is: **On page 102**: Strength test pressure at crossings with roads and rivers is higher than operating pressure by 50 % - it is 82,5 bar.

	Technical Specifications. Please clarify which requirements are correct and should be used during the execution of testing?	**On page 187**: Pressure when testing for tightness must be equal to the maximum operating pressure –it is 55 bar. Maximum gas pipeline operating pressure MG10 is MOP=55 bar.
7.	Subject: various questions Description: 1.Requirements for a bidder in terms of licensing and accreditation, taking into account EU requirements; 2. Construction dates in accordance with the Customer's investment program (beginning, completion); 3. Responsibility zone and timing of land for construction (ROW); 4.Status of geological, archaeological and other research; 5.The possibility and manner in which additional volumes of work and materials not included in the technical project are processed and agreed upon; 6. Draft contract with detailed payment terms. 7. Is supply of materials also allowed from countries as stated in Regulation 236/2014 annex I	1. Please note Volume 1, Section 1, Instructions to Tenderers under item 12.2 b) Professional capacity of candidate. 2. Please refer to Clarifications No. 2, Answer No. 6. 3. Please refer to Volume 3, Technical Specifications, Section 2.8 Right of Access to the Site. 4. Please see Volume 5, Section 5.2 for the list of documents available for inspection. 5. Please refer to Clarifications No.2, Answer No. 13. 6. Please refer to the tender dossier, Volume 2, Section 1, 2 and 3. 7. Please refer to Clarifications No. 2, Answer No. 3.
8.	Subject: Engineering. Clarifications regarding diesel generator. Description: In accordance with the single-line diagrams of electrical distribution boards 3x400 / 230 VAC for each of the MS & MRS metering stations (for example, for MS "Trupale" scheme No. 21 / 18-1-T-4 /3.1-03) there are two power supply input: from an external network and from a diesel generator through the socket. The tender documents do not contain requirements for the supply of a Diesel generator (in Volume 3 /Technical Specifications.doc, as well as Volume 4 / 4.3 Electrical design - custody transfer metering station and metering and regulating	The diesel generator is not responsibility of the Contractor. The selector switch for selection of the power supply input from an external network or from a diesel generator through the external socket is envisaged. The selector switch is manual, requiring presence of an operator to provide back up in case of long-term power outage, i.e. no ATS cubicle. The operator will connect back up mobile diesel generator of the adequate power capacity.

	stations.xlsx). Please provide the following information: a) whether the Diesel Generator is responsibility of CONTRACTOR, b) if the Diesel generator is CONTRACTOR's responsibility, please provide technical requirements for the diesel generator, including: · required power, kW, · required time of autonomous operation from the diesel generator's own supply of diesel fuel, · required version of the Diesel generator (in the building, in the factory container), · requirement for a fire alarm system and fire extinguishing Diesel generator), · requirement for automatically turn on the Diesel generator in case external line break.	
9.	Subject: Engineering. Clarifications regarding UPS-230 VAC / 24 VDC. Description: In accordance with 21 / 18-1-T-5 / 2.1 (for example for MRS "NIS 2" according to drawing 21 / 18-1-T-5 / 2.1 - 1.7) in Volume 5, as well as Volume 4, 5.2 Telecommunication and signal installation design - the telemetry, Item 4 requires delivery of UPS-230 VAC / 24 VDC system with VRLA rechargeable batteries for telemetry and commercial gas metering system. The tender documents do not contain the necessary technical requirements for the UPS system for ordering it. Please provide the following information: · required battery life of the UPS, (hour), · UPS power, (kW).	The requested information is here: PPS Trupale 600 W on 24 VDC 12 hours MMRS Niš 2 500 W on 24 VDC 12 hours MRS Bela Palanka 500 W on 24 VDC 12 hours MRS Pirot 500 W on 24 VDC 12 hours MRS Dimitrovgrad 500 W on 24 VDC 12 hours
10.	Subject: Engineering. Clarifications regarding special requirements for the main Dn700 valves. Description: We have studied the design documentation provided in the Tender package, but in the Technical Specifications we have not found any special requirements for the main Dn700 valves and for the pig trap equipment. To send appropriate requests for quotations to relevant vendors, we need more detailed requirements for the valve design in addition to the valve diameter and pressure rating. You are kindly requested to share with us the data sheets	The requirements for the main DN700 and other valves and for the pig trap equipment are described in Technical Specifications, on pages 127 and 128 under heading “SHUT-OFF DEVICES AND GASKETS” and “CLEANING STATIONS”.

	for Dn700 valves and pig traps, or a more detailed specifications for the above-mentioned equipment.	
11.	Subject: Payments Description: Please clarify how the project materials will be paid, in particular whether even in our situation, art.14.5 subparagraphs (b) and (c) "Plant and Materials intended for the works" of "General Conditions" apply. In fact, lists of relevant Plant and Materials are not included in the Appendix to Tender, but Art.14.5 as revised in "Particular Conditions" makes reference to BoQ of Volume 4 (50% paid at the time of purchase) where materials are gathered in the same article together with theirs installation, with a sole price for both purchase and installation.	Please note: - General Conditions of Contract Sub-clause 14.5 is mentioned in the Appendix to Tender and it applies. - the relevant Plant and Materials are listed in the Appendix to Tender, namely: "*Volume 4, Book 1.1 Mechanical engineering design for gas pipeline route and auxiliary buildings (block valve station and cleaning stations)"*. The plant and materials listed in this Book are subject to payment under 14.5. No other plant and materials are subject to payment under 14.5. - the option (c) is selected and it applies. Hence no payment is made at the time of purchase. - the option (b) is not selected and it does not apply, - the Particular Conditions simplifies the process - when conditions in 14.5 (c) (i) and (c) (ii) are fulfilled, 50% of Bill of Quantities value can be included in the Interim Payment Certificate.
12.	Subject: Volume 3 – Technical Specification Volume 5 – Design Drawings Description: As per drawing: 21/18-1-T-1/1.1-09.3, rivers are considered to be laid with casing pipe and thrust boring method. As per drawing 21/18-1-T-1/1.1-03 and Document: 1.1 - Technical Specification, pag 113, "Waterway crossings of gas pipeline"; rivers are considered to be laid without casing pipe and with open trench method. Please clarify.	Please note that this issue will be remedied by means of Corrigendum. Please regularly check official TED eTendering website and CFCU website at *http://www.cfcu.gov.rs/tenderi.php*. Gas pipeline crossing with rivers will be performed with open trench. Volume 4, Bill of quantities, 3 Gas pipeline crossing with large water courses design, sheet WATERCOURSES is changed as follows: 1. Preparatory works

		• Item 1.1 – the quantity has changed from 12868.20m^2 to 15814.50 m^2 • Item 1.4 – the quantity has changed from 12868.20 m^2 to 15814.50 m^2 2. Earthworks • Item 2.1.1 – the quantity has changed from 2573.64 m^3 to 5271.50 m^3 • Item 2.2.4 – the quantity has changed from 5591.91 m^3 to 6033.21 m^3 • Item 2.3.1 – the quantity has changed from 6901.38 m^3 to 12354.48 m^3 • Item 2.3.2 – the quantity has changed from 6901.38 m^3 to 12354.48 m^3 • Item 2.3.3 – the quantity has changed from 1150.23 m^2 to 1213.94 m^2 3. Stone works • Item 3.1 – the quantity has changed from 1725.35 m^3 to 3088.62 m^3 • Item 3.2 – the quantity has changed from 690.14 m^3 to 1235.45 m^3 • Item 3.4 – this is the new position which is added in revised Bill of Quantities 4. Concrete works • Item 4.2 – the quantity has changed from 168.00 m^3 to 466.20 m^3 • Item 4.3 – the quantity has changed from 150.00 m^2 to 560.00 m^2 • Item 4.4 – the quantity has changed from 400.00 kg to 1383.00 kg 5. Works on the gas pipeline laying with a direct pipe and horizontal directional drilling method • This title is deleted 6. Miscellaneous works • This title is numbered as 5 • Item 6.1 is numbered as 5.1 • Item 6.2 is numbered as 5.2

		• Item 6.3 is numbered as 5.3 • Item 6.4 is numbered as 5.4 • Item 6.5 is numbered as 5.5 • Item 6.6 Unforeseen works is deleted
13.	Subject: Question for Construction of Gas Interconnector Serbia – Bulgaria on the Serbian Territory Description: In Contractor's Personnel as per Technical Specifications, Section 5, item 9. Cathodic Protection installers, you ask for **engineers** with licenses 350, 352, 450 or 452, who must have, among other, Certificates for Pin brazing. **Workers/installers for cathodic protection have these certificates, not the Engineers**. Please clarify what is the correct requirement?	Please note that this issue will be remedied by means of Corrigendum. Please regularly check official TED eTendering website and CFCU website at *http://www.cfcu.gov.rs/tenderi.php*. In the Volume 3, Technical Specifications, Section 5. Contractor's Personnel, item 9.: Instead of: *"Cathodic protection installers* *Qualifications and skills* *University degree in electrical engineering or equivalent qualification. Engineering license valid in Serbia (No.: 350, 352, 450 or 452)* *General professional experience* *Minimum 10 years of experience in construction of infrastructure projects.* *Specific professional experience* *Must have Certificate for Pin brazing.* Read: *"Cathodic protection expert* *Qualifications and skills*

		University degree in electrical engineering or equivalent qualification. Engineering license valid in Serbia (No.: 350, 352 or 450) *General professional experience* *Minimum 10 years of experience in design or construction of infrastructure projects.* *Specific professional experience* *Must have experience in design or construction of the cathodic protection of pipeline length of at least 10 km."*
14.	Subject: Volume 5 – Design Drawings Volume 4 – Financial Offer Description: As per drawing: 21/18-1-T-1/1.1-03 all crossings with casing pipe are foreseen to be installed with thrust boring method. As per document: EN-3 Gas pipeline crossing with large water courses design, item 5, HDD and Direct Pipe method is foreseen. Please clarify.	Gas pipeline crossing with large water courses will be performed with open trench. For changes in Volume 4, Bill of quantities, 3 Gas pipeline crossing with large water courses design, sheet WATERCOURSES, please refer to Answer No. 12.
15.	Subject: Volume 5 – Design Drawings Volume 4 – Financial Offer Description: As per drawing: 21/18-1-T-1/1.1-03 pipeline length is 109+137.71 m As per document: BoQ 1.1 pipeline length is 112.707 m (item 1+2+3+4 of A-Gas Pipeline Route) Please clarify.	The lengths in Volume 4, Bill of quantities, 1.1 Mechanical engineering design for gas pipeline route and auxiliary buildings (block valve station and cleaning stations), Sheet A-Gas Pipeline Route (item 1+2+3+4) are valid for tendering. Drawing 21/18-1-T-1/1.1-03 shows the pipeline chainage (horizontal projection). The Bill of quantities lengths are true lengths of the pipes adjusted to the terrain configuration.
16.	Subject: Procurement Description: Can Employer clarify the exact Scope Of Work, including or not Procurement? Indicated Contract form is FIDIC Reb Book, specialised for Construction only Works and excluding Procurement. Although it is clearly mentioned in different Tender documents that the Procurement is part of the Contractor SOW.	Please refer to Clarification No. 2, Answer No. 26.

17.	Subject: TENDER GUARANTEE Description: As indicated in art. "4.2 Performance security" of Particular Conditions, the Performance Security shall be issued by a bank or other financial institution approved by the Employer. Here the bank choosen for your approval in order to issue the guarantee quickly: UNICREDIT S.P.A. Piazza Gae Aulenti, 3 - Tower A - 20154 Milano. Albo dei Gruppi Bancari: cod. 2008.1 Cod. ABI 02008.1 Cod. Swift: UNCRITMM Otherwise, please give us a list of the banks or other financial institutions approved by the Employer	The Sub-Clause 4.2 Performance security of Particular Conditions deals with the Performance Security. The Contracting Authority before approval of the guarantee checking credit rating of proposed bank. Acceptable credit rate of the financial institution is obligated according to risk assessment and it is not related to any specific contractor. Checking of credit rate is internal procedure of the Contracting Authority. The successful tenderer can submit draft of the guarantees through email for checking before submission of original guarantees. When it comes to the Tender Guarantee, please note that the Contracting Authority/Employer does not provide prior approval of the bank or other financial institution issuing it. In any case, the guarantee must be issued by a financial institution with the higest/ investment credit rate. For additional information regarding credit rates, please refer to: https://nbs.rs/en/finansijsko_trziste/informacije-za-investitore-i-analiticare/kreditni_rejting/index.html
18.	Subject: ENGINEERING ACTIVITIES Description: Please advise if additional documents, other than the ones already provided in the tendering package and their native files in digital copy, will be made available to the successful Bidder after the contract award.	All documents mentioned in Volume 5, Section 5.2 will be made available to the successful tenderer.
19.	Subject: Engineering works Description: In case the documentation included in the ITT package is not sufficient for the procurement and construction activities and additional engineering activities are required, please clarify if these engineering works shall be under Bidder's responsibility.	All Contractor's activities, additional to those defined in the Contract, will be administered under the Clause 13 of FIDIC General and Particular Conditions of Contract.

20.	Subject: BILL OF QUANTITIES Description: Bidder understands that bill of quantities listed in document d4x_finoffer_4dot3_en clause 1.1 are to be considered installation (net) quantities and do not include allowances and or construction spare. Please confirm or instruct otherwise.	The Volume 4, Bill of quantities are to be considered installation (net) quantities and do not include allowances and construction spare.
21.	Subject: EQUIPEMENT AND INSTRUMENT PROCESS DATA SHEET Description: To carry out procurement activities, process data sheet for equipment and instruments are needed. Bidder kindly requests to clarify if process data sheet will be provided during the bid phase or after contract award. If mentioned documents are not available, please provide the following basic data: - Daily gas flowrate (or pipeline utilization factor) - Turn down flowrate - Reference Gas composition - Maximum Pipeline Design Temperature (above and below ground) - Minimum Design Temperature - Normal operating temperature - Normal operating pressure - Maximum and Minimum Pipeline Delivery pressure at Trupale and Dimitrovgrad Station - Environmental data (Air temperature, soil temperature at burial depth, soil thermal conductivity, soil density, soil heat capacity)	- Gas flowrate (or pipeline utilization factor): 350.000m^3/h - Turn down flowrate: 1500 m^3/h - Reference Gas composition: • Methane (CH_4) 97,5278 % mol • Ethane (C_2H_6) 0,8797 % mol • Propane (C_3H_8) 0,1397 % mol • Isobutane (C_4H_{10}) 0,0149 % mol • N-Butane (C_4H_{10}) 0,0248 % mol • Isopentane (C_5H_{12}) 0,0180 % mol • N-Pentane (C_5H_{12}) 0,0203 % mol • Hexane (C_6H_{14}) 0,0222 % mol • Heptane + heavier (C_7H_{16}) 0,0126% mol • Nitrogen (N_2) 0,9303 % mol • Carbon dioxide (CO_2) 0,4100 % mol - Maximum Pipeline Design Temperature (above and below ground): Above / below - 60ºC / 4,9ºC - Minimum Pipeline Design Temperature: 4,9ºC - Normal operating temperature: not available - Normal operating pressure: not available - Maximum and Minimum Pipeline Delivery pressure at Trupale and Dimitrovgrad Station: not available - Environmental data (Air temperature, soil temperature at burial depth, soil thermal conductivity, soil density, soil heat capacity): • Air temperature – min / max: -35,6 ºC / 42, 3 ºC

		• Soil temperature at burial depth (1m) – 13,0-13,7 °C (average annual temperature) • Soil thermal conductivity – 2,3W/ (m°C) • Soil density – not available • Soil heat capacity – not available
22.	Subject: VOLUME 3 - TECHNICAL SPEC. European Standard to be applied Description: The main line pipe material is specified in the standard ISO 3183 L360 PSL1. However, the annex A of ISO 3183 regulation is related to onshore pipes for the transport of natural gas in Europe and requires the use of the PSL2 grade. Please confirm the applicability of the Annex A.	The Annex A is not applicable. We confirm SRPS EN ISO 3183 L360 PSL1.
23.	Subject: VOLUME 3 - TECHNCIAL SPEC. - PERMITS TO BE OBTAINED BY CONTRACTOR Description: Bidder kindly asks to clarify what are the authorizations and permits that are to be obtained by Contractor.	Construction permit has been obtained by End Recipient. The Works Contractor will support the End Recipient in applying to authorities after completion of the Works, in accordance with the Serbian laws. All other authorizations and permits related to implementation of works in accordance with national legislation shall be obtained by Works Contractor. Additionally, please refer to Volume 3, Technical Specifications, Section 2.12 Coordination and approvals.
24.	Subject: UXO SURVEY Description: Bidder assumes that unexploded ordnance/mine clearance has been already carried out by Company on project areas and site will be handed over to successful Bidder at the commencement date of the construction activities.	UXO clearance has not already been carried out. Please refer to Clarifications No. 2, Answer No. 16.

25.	Subject: Volume 3 – Technical Specification 5.Contractor's Personnel (FIDIC Sub-clause 6.9) Par.3 Pag. 32 of 672 Description: 3. Welding engineer Qualifications and skills University degree in engineering or equivalent qualification. Must have an IWE diploma for acquired qualification of an international welding engineer or an EWE for acquired qualification of European welding engineer, or equivalent. Tenderer kindly request to better define which kind of equivalent qualification similar to IWE/EWE can be considered acceptable (e.g. International / European Welding Technologist).	Any other welding certificate issued in EU member states or other eligible country will be considered acceptable.
26.	Subject: Volume 3 – Technical Specification TECHNICAL REQUIREMENTS FOR WORKS - CIRCUMFERENTIAL WELDING Pag. 131 of 672 Description: TECHNICAL CHARACTERISTICS OF THE GAS PIPELINE Welding Steel pipes and steel pipe components must be welded in accordance with SRPS EN 12732. Welding technology qualifications are implemented in accordance with SRPS EN ISO 15614-1. CIRCUMFERENTIAL WELDING 1. Welding of circumferential joints on the gas pipeline should be carried out in accordance with SRPS EN 12732 Gas infrastructure - Welding steel pipework - Functional requirements and SRPS EN ISO 15614-1 Specification and qualification of welding procedures for metallic materials – Welding procedure test - Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys (Arc and gas welding of steels and arc welding of nickel and nickel alloys or the latest edition of ANSI B31.8 standard, API 1104 standard. **Tenderer kindly request to define if welding activity during pipeline construction will be realized according to European Norm and Institute for Standardization of Serbia (SRPS EN 12732 and SRPS EN 15614-1) or American Standard (ASME B31.8 and API 1104).**	Pipeline construction will be realized according to European Norm and Institute for Standardization of Serbia (SRPS EN 12732 and SRPS EN 15614-1).

	According Tenderer previous experience in similar projects located in Europe the design and construction requirements including welding are developed according to European Norm (EN) and National Institute for Standardization.	
27.	Subject: Volume 3 – Technical Specification TECHNICAL REQUIREMENTS FOR WORKS - CIRCUMFERENTIAL WELDING Pag. 132 of 672 Description: 4. Before installation and centring the Contractor must check all pipes for any possible dents, scratches, grooves, flattening, corrugations and distortions. Any damage observed must be repaired in accordance with the latest edition of standards ANSI B31.8 and API 1104. **Tenderer kindly request to clarify if inspection activity during pipeline construction will be realized according to European Norm and Institute for Standardization of Serbia (SRPS EN 1594) or American Standard (ASME B31.8 and API 1104).** According Tenderer previous experience in similar projects located in Europe the design and construction requirements including welding are developed according to European Norm (EN) and National Institute for Standardization.	Inspection activity during pipeline construction will be realized according to European Norm and Institute for Standardization of Serbia (SRPS EN 1594).
28.	Subject: Volume 3 – Technical Specification TECHNICAL REQUIREMENTS FOR WORKS - CIRCUMFERENTIAL WELDING Pag. 132 of 672 Description: 6. Root welding must be executed with coated electrode. Root welding must be executed by a number of welders provided by defined and approved procedure and welding technology **Tenderer kindly request to clarify if the following typical welding processes for onshore gas pipeline construction are acceptable for root pass as allow in SRPS EN 12732: 1) solid wire gas metal arc welding by mechanized welding system (SRSP EN 4063 process 135) for main line. 2) TIG welding**	The mentioned welding processes are acceptable in general, but the welding technology must be qualified. Successful tenderer shall qualify welding technology before start of welding works. Welding will be performed in accordance with qualified welding technology approved by the supervisory IWE/EWE.

	(SRSP EN 4063 process 141) for piping/stations.	
29.	Subject: Volume 3 – Technical Specification TECHNICAL REQUIREMENTS FOR WORKS - CIRCUMFERENTIAL WELDING Pag. 133 and 141 of 672 Description: 17. Radiographic testing is carried out in accordance with SRPS EN ISO 17636-1 and SRPS EN ISO 17636-2 and tolerance is determined in accordance with SRPS EN ISO 10675-1. **Tenderer kindly request to clarify which kind of radiography inspection is demanded considering the 2 norm mentioned are not compatible**: SRPS EN ISO 17636-1 specifies the requirements for traditional radiography by film typical demanded in pipeline construction. SRPS EN ISO 17636-2 specifies the requirements for digital radiography not typical demanded in pipeline construction.	Radiography inspection shall be performed in accordance with SRPS EN ISO 17636-1 that specifies the requirements for traditional radiography by film typically required in pipeline construction.
30.	Subject: BoQ_2.1 Description: With reference to: sheet 1-51 Roads, item 12 Asphlata road 24+885.3, 1.1 Geodetic works. Length of the activity, 550 ml, appears longer than the crossing length. Please clarify.	Please note that this issue will be remedied by means of Corrigendum. Please regularly check official TED eTendering website and CFCU website at *http://www.cfcu.gov.rs/tenderi.php*. "*550m1*" is a typing mistake. In Volume 4. Bill of Quantities, 2.1 Construction design of gas pipeline route and accompanying facilities - block valve stations and launching scrapers, Sheet 1-51 Roads, item 12 Asphalt Road as survey mark of the gas pipeline 24+885.3, item 1.1 Geodetic works: Instead of: "*Total: m1 550*" Read: "*Total: ml 50*".

31.	Subject: VOLUME 3 – TECHNICAL SPECIFICATIONS - European Standard to be applied - PIPELINE Description: **ASME B16.9 is not applicable** for hot induction bends and pipeline fittings. EN 14870-1 (for hot induction bends) and EN 14870-2 (for Pipeline fittings) shall be considered. Please confirm.	We confirm EN 14870-1 (for hot induction bends) and EN 14870-2 (for Pipeline fittings) standards shall be considered.
32.	Subject: VOLUME 3 – TECHNICAL SPECIFICATIONS - METERING LINES - PROCESS/INSTRUMENTATION Description: As per Technical Specifications, MS Trupale has a maximum flow capacity of 350.000 m3/h and it includes 4 operating metering lines plus 1 spare line. Since the maximum capacity of each line is 70.000 m3/h, Bidder understands that the maximum flowrate capacity is achieved with all 5 metering lines in operation. Please confirm Bidder understanding.	We confirm Tenderer's understanding that the maximum flowrate capacity is achieved when all 5 metering lines are in operation.
33.	Subject: PRESSURE PROTECTION SYSTEMS - PROCESS Description: The natural gas interconnector pipeline MG10 will connect the Serbian natural gas transmission system with that of Bulgaria. Since no additional information has been found in tender document on the upstream and downstream gas systems, Bidder understands that the design pressures of these systems are lower or equal to 55 barg or a high pressure protection systems for the MG10 pipeline is provided by others. Please confirm Bidder understanding.	We confirm Tenderer's understanding. Design pressure of these systems is lower or equal to 55 bars.
34.	Subject: TENDER DOSSIER VOLUME 3 - TECHNICAL SPECIFICATIONS - FIRE & GAS DETECTION - LOSS PREVENTION Description: VOLUME 3 - TECHNICAL SPECIFICATIONS reports F&G detection system only for analyzer building at MS of Trupale. Based on the above Bidder assumes that: - F&G system for analyser building shall be	We confirm the F&G system for analyzer building shall be installed and tested according to EN 61285 and IEC TR 61831 requirements.

	installed and tested according to EN 61285 and IEC TR 61831 requirements. Please confirm.	
35.	Subject: TENDER DOSSIER VOLUME 3 - TECHNICAL SPECIFICATIONS - FIRE & GAS DETECTION - LOSS PREVENTION Description: VOLUME 3 - TECHNICAL SPECIFICATIONS reports F&G detection system only for analyzer building at MS of Trupale. No additional fire and gas system is defined/reported for other fenced plant areas along the Interconnector Gas Pipeline route. Based on the above Bidder understands that: [1] NO F&G system is required for external installations inside fenced plant areas (scraper trap stations, BVS, MRS) [2] NO F&G system is required for the metering room although F&G system is mentioned in EN 1776. [3] NO F&G system is required for technical rooms with electrical/instrumented equipment at MS of Trupale. [4] NO F&G system is required for boiler rooms according to "Sl. list SFRJ", br. 10/90 i 52/90 considering that these building are installed above ground in unmanned areas Please confirm Bidder understanding.	We confirm: [1] NO F&G system is required for external installations inside fenced plant areas (scraper trap stations, BVS, MRS) [2] NO F&G system is required for the metering room although F&G system is mentioned in EN 1776. [3] NO F&G system is required for technical rooms with electrical/instrumented equipment at MS of Trupale. [4] NO F&G system is required for boiler rooms according to "Sl. list SFRJ", br. 10/90 i 52/90 considering that these building are installed above ground in unmanned areas
36.	Subject: VOLUME 3 TECHNICAL SPECIFICATIONS para. 4.8.3 **Tests after Completion** (FIDIC Sub-clause 1.1.3.6) - Responsibilities for Natural gas introduction and following commissioning tests of process systems – COMMISIONING Description: With reference to FIDIC Sub-clause 1.1.82 "Tests after Completion", Bidder has not found in the Tender documentation any specific document/detail for the Tests after Completion to be carried-out on the process systems as part of the Works. Bidder understands that first introduction of natural gas into the new built Facilities and subsequent commissioning tests, will be performed by Company and it is excluded	The first introduction of natural gas into the new built facilities will be performed by the End Recipient. Subsequent commissioning tests shall be performed by the Works Contractor as defined in Volume 3, Section 4.8.2 Tests on Completion (FIDIC Clause 9). The Works Contractor's scope of work will not end with issuance of the Taking-Over Certificate. Any unfinished Works or noted defects during the Tests and Defects Notification Period must be removed by the Works Contractor.

	from Bidder scope and that scope of work will end with the issuance of a Taking-Over Certificate for the Works as per FIDIC Sub-clause 1.1.79 "Taking-Over Certificate". Please kindly confirm Bidder understanding.	
37.	Subject: VOLUME 3 TECHNICAL SPECIFICATIONS para. 4.8.3 **Tests after Completion** (FIDIC Sub-clause 1.1.3.6) - Responsibilities for Natural gas introduction and following commissioning tests of process systems – COMMISIONING Description: Please clarify if the contract requires any specific Bidder obligation to provide assistance/support to Company after the issuance of the Taking-over certificate. Company instruction and/or confirmation is kindly requested.	Test after Completion shall be performed by the End Recipient in accordance with Volume 3, Section 4.8.3 Tests after Completion. No specific assistance/support to the End Recipient during the Tests after Completion is required. If the Works Contractor participates in the Tests after Completion, the Works Contractor will be paid under Volume 4, 0**-** 2 General Items and Daywork, Sheet General items (2), Lump Sum No C.9. If the Works Contractor does not participate in the Tests after Completion, he must still accept the results of testing. In this case, no payment is due under Lump Sum No C.9. Any unfinished Works or noted defects during the Tests and Defects Notification Period must be removed by the Works Contractor.
38.	Subject: VOLUME 3 TECHNICAL SPECIFICATIONS para. 4.8.3 **Tests after Completion** (FIDIC Sub-clause 1.1.3.6) - Request for Pre-commissioning and Commissioning documentation Description: Bidder has not found in the Tender documentation any specific Pre-commissioning and Commissioning procedure/philosophy. Please kindly provide reference Pre-commissioning and Commissioning procedure /philosophy to be used for the project.	Please see Volume 3, Technical Specifications, Section 4.8 Testing.
39.	Subject: TECHNICAL INFORMATION - Mechanical Documents for Procurement Description: For procurement of material please kindly provide Mechanical Datasheets, mechanical specification and technical	There are no data sheets. Please refer to the description for equipment in Volume 3, Technical specifications, 6.1.2. Mechanical design of above ground facilities - custody

	requirements for equipments (Filters, Exchangers, cranes, Boilers).	transfer metering station and metering and regulating stations.
40.	Subject: TECHNICAL SPECIFICATION - Applicable standard for Mechanical Equipment Description: For procurement of material please kindly provide the list of international standard to be followed for the project (i.e. EN, ASME, TEMA, etc.), and the relative certification (e.g. PED, ASME STAMP, etc) for equipments.	The acceptable standards for materials, equipment and certification are SRPS EN. Please refer to the Volume 3, Technical Specifications. Standards and norms are listed in the description of the equipment and materials with their characteristics.
41.	Subject: Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design –custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design -custody transfer metering station and regulating stations MG10" Description: Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design –custody transfer metering station and regulating stations MG10" does not provide any calculation note (e.g., load consumption and power demand, cable sizing, earthing calcution, etc.) and therefore understands that no verification of Electrical system design correctness will be required to future awarded Bidder as well as no responsibility will be addressed to future awarded Bidder in case of engineering related issues. Please confirm or instruct otherwise.	We confirm that no verification of the electrical system design correctness by the Works Contractor is required, unless instructed otherwise by the Engineer during the implementation of the works.
42.	Subject: BoQ_2.1 Description: With reference to: sheet 1-51 Roads, item 12 Asphlata road 24+885.3, 1.1 Geodetic works. Length of the activity, 550 ml, appears longer than the crossing length. Please clarify.	Please refer to Answer No. 30.
43.	Subject: SECTION 1_Instructions to Tenderers Description: Paragraph 12.2.b.1 (Compant licenses and certificates) does require "(SRPS) ISO/IEC 17025, General requirements for the competence of testing and calibration	Please refer to Clarification No. 2, Answer No. 20.

	laboratories". Generally this certificate does not apply to General Contractor Pipeline Company, but rather to their specialized subcontractor. Please clarify	
44.	VOLUME 3 – TECHNICAL SPECIFICATIONS, Additional documents, GENERAL ENGINEERING Please advise if additional documents, other than the ones already provided in the tendering package and their native files in digital copy, will be made available to the successful Bidder after the contract award.	Please refer to Answer No. 18.
45.	Engineering works, GENERAL ENGINEERING In case the documentation included in the ITT package is not sufficient for the procurement and construction activities and additional engineering activities are required, please clarify if these engineering works shall be under Bidder's responsibility.	Please refer to Answer No. 19.
46.	COMPANY involvement in the review of issued project documents, GENERAL ENGINEERING Please clarify what will be the COMPANY involvement in the review of issued project documents. Kindly clarify type of documents subject to COMPANY review or approval and related contractual timing.	Please refer to Volume 2, Section 3 Particular Conditions, Sub-clause 3.1 The End Recipient must approve any variation to the Detailed Design („Projekat za izvođenje"). Any variation, including the time for approval, will be processed under Clause 13 of FIDIC General and Particular Conditions of Contract.
47.	Volume 4 d4x_finoffer_4dot3_en clause 1.1, Bill of Quantities GENERAL ENGINEERING Bidder understands that bill of quantities listed in document d4x_finoffer_4dot3_en clause 1.1 are to be considered installation (net) quantities and do not include allowances and or construction spare. Please confirm or instruct otherwise.	Please refer to Answer No. 20.
48.	Bidder Liability on provided Design, GENERAL ENGINEERING Bidder understands that no verification about the completeness and correctness of the engineering documentation is required under the contract and consequently Bidder's liability for the	This is confirmed. Please also refer to Sub-Clause 4.1 of the FIDIC General and Particular Conditions of Contract and Volume 3, Technical Specifications.

	performance of the Work is limited on the procurement and construction activities. Please confirm or instruct otherwise.	
49.	Permits, PERMITTING Bidder kindly asks to clarify what are the authorizations and permits that are to be obtained by Contractor.	Please refer to Answer No. 23.
50.	VOLUME 3– TECHNICAL SPECIFICATIONS Par.6.1.1, SOW clarification Tie-in to Yugorosgaz pipeline, PIPELINE Connection to gas transmission system "Yugorosgaz" is described in tender document. Please clarify technical requirements for tie-in works (i.e. tie-in point, hot tap or cold tie-in, welded or flanged connection, pipeline shut-down timing (if planned), Bidder SOW, etc.) Please also clarify where this work is to be quoted in the tender bill of quantities.	Only items in the Bill of Quantities will be quoted. Tie-in works and material are responsibility od End Recipient
51.	VOLUME 3 – TECHNICAL SPECIFICATIONS, European Standard to be applied, PIPELINE The main line pipe material is specified in the standard ISO 3183 L360 PSL1. However, the annex A of ISO 3183 regulation is related to onshore pipes for the transport of natural gas in Europe and requires the use of the PSL2 grade. Please confirm the applicability of the Annex A.	Please refer to Answer No. 22.
52.	VOLUME 3 – TECHNICAL SPECIFICATIONS, European Standard to be applied, PIPELINE ASME B16.9 is not applicable for hot induction bends and pipeline fittings. EN 14870-1 (for hot induction bends) and EN 14870-2 (for Pipeline fittings) shall be considered. Please confirm.	Please refer to Answer No. 31.
53.	EQUIPEMENT AND INSTRUMENT PROCESS DATA SHEET, PROCESS To carry out procurement activities, process data sheet for equipment and instruments are needed. Bidder kindly requests to clarify if process data sheet will be provided during the bid phase or after contract award.	Please refer to Answer No. 21.

	If mentioned documents are not available, please provide the following basic data: - Daily gas flowrate (or pipeline utilization factor) - Turn down flowrate - Reference Gas composition - Maximum Pipeline Design Temperature (above and below ground) - Minimum Design Temperature - Normal operating temperature - Normal operating pressure - Maximum and Minimum Pipeline Delivery pressure at Trupale and Dimitrovgrad Station - Environmental data (Air temperature, soil temperature at burial depth, soil thermal conductivity, soil density, soil heat capacity)	
54.	VOLUME 3 – TECHNICAL SPECIFICATIONS, METERING LINES, PROCESS/INSTRUMENTATION As per Technical Specifications, MS Trupale has a maximum flow capacity of 350.000 m3/h and it includes 4 operating metering lines plus 1 spare line. Since the maximum capacity of each line is 70.000 m3/h, Bidder understands that the maximum flowrate capacity is achieved with all 5 metering lines in operation. Please confirm Bidder understanding.	Please refer to Answer No. 32.
55.	PRESSURE PROTECTION SYSTEMS, PROCESS The natural gas interconnector pipeline MG10 will connect the Serbian natural gas transmission system with that of Bulgaria. Since no additional information has been found in tender document on the upstream and downstream gas systems, Bidder understands that the design pressures of these systems are lower or equal to 55 barg or a high pressure protection systems for the MG10 pipeline is provided by others. Please confirm Bidder understanding.	Please refer to Answer No. 33.
56.	TENDER DOSSIER VOLUME 3 - TECHNICAL SPECIFICATIONS, FIRE & GAS DETECTION, LOSS PREVENTION	Please refer to Answer No. 34.

	VOLUME 3 - TECHNICAL SPECIFICATIONS reports F&G detection system only for analyzer building at MS of Trupale. Based on the above Bidder assumes that: - F&G system for analyser building shall be installed and tested according to EN 61285 and IEC TR 61831 requirements. Please confirm.	
57.	TENDER DOSSIER VOLUME 3 - TECHNICAL SPECIFICATIONS, FIRE & GAS DETECTION, LOSS PREVENTION VOLUME 3 - TECHNICAL SPECIFICATIONS reports F&G detection system only for analyzer building at MS of Trupale. No additional fire and gas system is defined/reported for other fenced plant areas along the Interconnector Gas Pipeline route. Based on the above Bidder understands that: [1] NO F&G system is required for external installations inside fenced plant areas (scraper trap stations, BVS, MRS) [2] NO F&G system is required for the metering room although F&G system is mentioned in EN 1776. [3] NO F&G system is required for technical rooms with electrical/instrumented equipment at MS of Trupale. [4] NO F&G system is required for boiler rooms according to "Sl. list SFRJ", br. 10/90 i 52/90 considering that these building are installed above ground in unmanned areas Please confirm Bidder understanding.	Please refer to Answer No. 35.
58.	VOLUME 3 TECHNICAL SPECIFICATIONS para. 4.8.3 Tests after Completion (FIDIC Sub-clause 1.1.3.6), Responsibilities for Natural gas introduction and following commissioning tests of process systems, COMMISIONING With reference to FIDIC Sub-clause 1.1.82 "Tests after Completion", Bidder has not found in the Tender documentation any specific document/detail for the Tests after Completion to be carried-out on the process systems as part of the Works. Bidder understands that first introduction of natural gas into the new built	Please refer to Answer No. 36.

	Facilities and subsequent commissioning tests, will be performed by Company and is excluded from Bidder scope and that scope of work will end with the issuance of a Taking-Over Certificate for the Works as per FIDIC Sub-clause 1.1.79 "Taking-Over Certificate". Please kindly confirm Bidder understanding.	
59.	VOLUME 3 TECHNICAL SPECIFICATIONS para. 4.8.3 Tests after Completion (FIDIC Sub-clause 1.1.3.6), Responsibilities for Natural gas introduction and following commissioning tests of process systems, COMMISIONING Please clarify if the contract requires any specific Bidder obligation to provide assistance/support to Company after the issuance of the Taking-over certificate. Company instruction and/or confirmation is kindly requested.	Please refer to Answer No. 37.
60.	VOLUME 3 TECHNICAL SPECIFICATIONS para. 4.8.3 Tests after Completion (FIDIC Sub-clause 1.1.3.6) Request for Pre-commissioning, and Commissioning documentation, COMMISIONING Bidder has not found in the Tender documentation any specific Pre-commissioning and Commissioning procedure/philosophy. Please kindly provide reference Pre-commissioning and Commissioning procedure / philosophy to be used for the project.	Please refer to Answer No. 38.
61.	General, Mechanical Documents for Procurement, MECHANICAL For procurement of material please kindly provide Mechanical Datasheets, mechanical specification and technical requirements for equipments (Filters, Exchangers, cranes, Boilers).	Please refer to Answer No. 39.
62.	General, Applicable standard for Mechanical Equipment, MECHANICAL For procurement of material please kindly provide the list of international standard to be followed for the project (i.e. EN, ASME, TEMA, etc.), and the relative certification (e.g. PED, ASME STAMP, etc) for equipments.	Please refer to Answer No. 40.

63.	Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design -custody transfer metering station and regulating stations MG10", Liability on Electrical Design, ELECTRICAL Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design -custody transfer metering station and regulating stations MG10" does not provide any calculation note (e.g., load consumption and power demand, cable sizing, earthing calcution, etc.) and therefore understands that no verification of Electrical system design correctness will be required to future awarded Bidder as well as no responsibility will be addressed to future awarded Bidder in case of engineering related issues. Please confirm or instruct otherwise.	Please refer to Answer No. 41.
64.	Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design -custody transfer metering station and regulating stations MG10, Provision of basic electrical design documents, ELECTRICAL Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design -custody transfer metering station and regulating stations MG10" **does not provide the single line diagrams, the switchboards current rating and short circuit value**. To proper evaluate the electrical equipment please provide the above missing document required.	The Technical documentation Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design – custody transfer metering station and regulating stations MG10" and Doc. 21_18-1-T-4_3.1 "Electrical design -custody transfer metering station and regulating stations MG10", do have Single Line diagrams, please refer to Volume 5, 21/18-1-T-4/2.1 -11, 21/18-1-T-4/2.1 -12, 21/18-1-T-4/2.1 -13, 21/18-1-T-3.1 -03, 21/18-1-T-3.1 -12, 21/18-1-T-3.1 -21 and 21/18-1-T-3.1 -30. The switchboards current rating and short circuit value can be found in the Detailed Design, which is listed in the in Volume 5. Section 5.2 as of 21/18-1- PZI-0 and available only for inspection. The short circuit value for equipment is 10 kA
65.	Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design -custody transfer	All data necessary for tendering is already in the provided tender dossier.

	metering station and regulating stations MG10", Provision of grounding electrical study, ELECTRICAL Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design - custody transfer metering station and regulating stations MG10" **does not provide the earthing calculation stud**y. To proper evaluate the grounding electrical system, please provide the relevant grounding electrical study for each plant area.	In addition, the earthing calculation study can be found in the Detailed Design (in Serbian), which is listed in the in Volume 5. Section 5.2 as of 21/18-1- PZI-0 (Projekat za izvođenje Bi-directional gas pipeline MG10 Niš-Dimitrovgrad (interconnector Bulgaria-Serbia); / dvosmerni magistralni gasovod MG10 Niš – Dimitrovgrad (interkonektor Bugarska Srbija) and is available for inspection. Detailed Design gives all calculations required by regulations, in the sections titled 1.6 Numerical documentation, including earthing calculation. In addition the documentation your company referred to (21/18-1-T-4/3.1 -00 and 21/18-1-T-4/2.1 -00) present the necessary physical layouts (titled as of General layout plan of grounding, Earthing installation - Grounding detail, Foundation grounder, Grounding layout) to properly evaluate the grounding electrical system.
66.	Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design - custody transfer metering station and regulating stations MG10", Provision of electrical load summary, ELECTRICAL Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design - custody transfer metering station and regulating stations MG10" does not provide the electrical load summary and power demand of each area. To proper evaluate the electrical system, please provide the electrical load summary for each area.	All data necessary for tendering is already in the provided tender dossier. In addition, the electrical load summary for each area can be found in the Detailed Design (in Serbian), which is listed in the in Volume 5. Section 5.2 as of 21/18-1- PZI-0, Projekat za izvođenje - Bi-directional gas pipeline MG10 Niš-Dimitrovgrad (interconnector Bulgaria-Serbia); / Dvosmerni magistralni gasovod MG10 Niš – Dimitrovgrad (interkonektor Bugarska Srbija) and is available for inspection. Detailed Design for block valve stations and launching scrapers (21/18-1-PZI-4/2.1) does not contain those load summaries (being small loads) for which selected cablings easily cover load requirements. Electrical design for custody transfer metering station and metering and regulating stations does

		contain load data in the Chapter 1.6. Numerical documentation.
67.	Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design - custody transfer metering station and regulating stations MG10", Provision of electrical cable list, ELECTRICAL Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4_2.1 – Electrical design -custody transfer metering station and regulating stations MG10" and doc. 21_18-1-T-4_3.1 "Electrical design - custody transfer metering station and regulating stations MG10" does not provide the electrical cable list of each area. To proper evaluate the electrical system, please provide the electrical cable list for each area.	All data necessary for tendering is already in the provided tender dossier. In addition, the electrical cable lists (not given on the "each area" but rather on the "current circuits" principle) are available in the Detailed Design (in Serbian). Detailed Design for block valve stations and launching scrapers (21/18-1-PZI-4/2.1) does not contain cable overview (being small loads) for which selected cablings easily cover load requirements. Electrical design for custody transfer metering station and metering and regulating stations does contain cable specifications for each current circuit.
68.	Doc. 21/18-1-T-4/1.1-00, CP Design – Verification, Cathodic Protection Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" does not provide any calculation note (e.g., pipeline and piping protective current demand, groundbed sizing, rectifier sizing, potential attenuation along the pipeline route, etc.) and therefore understands that no verification of CP design correctness will be required to future awarded Bidder as well as no responsibility will be addressed to future awarded Bidder in case of insufficient CP system performance due to engineering related issues. Please confirm or instruct otherwise.	We confirm that no verification of Cathodic Protection design accuracy will be required. Technical documentation Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathode protection" does not contain calculations. Volume 3, Technical specifications, Chapter 1. Specification, Drawings and Design, makes reference to the Detailed Design, which is listed in the in Volume 5. Section 5.2 as of 21/18-1- PZI-0 (Construction Design / Projekat za izvođenje Bi-directional gas pipeline MG10 Niš-Dimitrovgrad (interconnector Bulgaria-Serbia); / dvosmerni magistralni gasovod MG10 Niš – Dimitrovgrad (interkonektor Bugarska Srbija) and is available for inspection. Detailed Design, particularly Electrical design - gas pipeline cathode protection (doc. ref., 21/18-1-PZI-4/1.1) does involve all calculations required by regulations in the section 1.6 Numerical documentation.

69.	Doc. 21/18-1-T-4/1.1-00 CP Design – Plant Areas, Cathodic Protection Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" does not consider **"Niš 2", "Knjaževac", "Bela Palanka", "Pirot" and "Dimitrovgrad" as plant facilities classified as "complex area"** according to SRPS EN 14505:2008. This apparently means that no underground piping needful of CP is expected to be present in these areas. Please confirm or instruct otherwise.	We confirm that additional cathodic protection according to SRPS EN 14505:2008. for "Niš 2", "Knjaževac", "Bela Palanka", "Pirot" and "Dimitrovgrad" plant facilities is not required. All underground pipeline in "Niš 2", "Knjaževac", "Bela Palanka", "Pirot" and "Dimitrovgrad will be protected with cathodic protection system foreseen for the line section.
70.	Doc. 21/18-1-T-4/1.1-00, CP Design – Isolation Joints Protection, Cathodic Protection Bidder notes that Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" does not account for any protection device to be installed across isolation joints to protect their internal dielectric fittings from damage (due to lightning strike or other overvoltage). Please confirm or instruct otherwise.	We confirm that protection device to be installed across isolation joints to protect their internal dielectric fittings from damage (due to lightning strike or other overvoltage) are not envisioned. The technical solution given in Volume 5 should be applied.
71.	Doc. 21/18-1-T-4/1.1-00, CP Design – Bill of Quantities, Cathodic Protection Bidder understands that material quantities listed in clause 1.5 of Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" are to be considered net quantities and do not include for any possible design development allowance or necessary construction spare. Please confirm or instruct otherwise.	We confirm. Material quantities listed in clause 1.5 of Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" are to be considered net quantities and do not include for any possible design development allowance or necessary construction spare.
72.	Doc. 21/18-1-T-4/1.1-00, CP Design – Test Posts Painting, Cathodic Protection Bidder understands that external surfaces of test posts listed in clause 1.5 of Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" (line item 1.5 and 1.6) require a 3-coat paint cycle. Please confirm, providing relevant technical characteristics and final paint color, or instruct otherwise.	We confirm that external surfaces of test posts listed in clause 1.5 of Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" (line item 1.5 and 1.6) require a 3-coat paint cycle. Test post shall be painted with paints which must be in accordance with standard SRPS EN ISO 12944-5, with one layer of primer and two layers of metallic protective paint. Final paint color is RAL 1021.

73.	Doc. 21/18-1-T-4/1.1-00, CP Design – Test Posts Protection, Cathodic Protection Bidder understands that cathode voltage arresters listed in clause 1.5 of Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" (line item 1.22) are surge arresters to be installed inside test post enclosures, when these are installed in suspected AC interference areas. Please confirm, providing relevant technical characteristics and updating the List in clause 1.3 to indicate concerned test posts, or instruct otherwise.	Cathode voltage arresters listed in clause 1.5 of Doc. 21/18-1-T-4/1.1-00 "4/1 – Electrical design - Gas pipeline cathodic protection" (line item 1.22) are surge arresters to be installed inside test post enclosures, when these are installed in suspected interference areas of overhead lines with nominal voltage 110 kV and higher. List of test post are given in Volume 3, 4.1 - Electrical design - gas pipeline cathodic protection (test post with mark ''uz''). Technical characteristics are: A) Response to alternating voltage (50Hz) 1.0 kV. B) Response to surge voltage (1/50µs) 2.2 kV. C) Surge current rating (8/20µs) 100 kA.
74.	EN-5.2 Telecommunication and signal installation design – telemetry, UPS, TELECOM With reference to document EN-5.2 Telecommunication and signal installation design - telemetry, Company is kindly requested to provide the minimum required duration (hours) of UPS for Telecommunications equipment.	UPS for Telecommunications equipment has to provide independent operation of complete equipment, in the absence of power from the mains, for 12 hours as minimum value.
75.	EN-5.2 Telecommunication and signal installation design – telemetry, Telecommunication Cabinet, TELECOM With reference to document EN-5.2 Telecommunication and signal installation design - telemetry, section 3 "EQUIPMENT INSTALLATION CABINET", Company is kindly requested to confirm that this cabinet is only for Telecommunication equipment (i.e. Router, Switch, Patch Panel) or advice otherwise.	According to the reference to document EN-5.2 Telecommunication and signal installation design - telemetry, section 3 "EQUIPMENT INSTALLATION CABINET", this cabinet is only for Telecommunication equipment (i.e. Router, Switch, Patch Panel). The further request is to put all interfaces for process equipment, like interfaces for volume correctors or flow computers devices, in that cabinet. Also, the protective equipment for transmitter circuits will be placed in the cabinet if required, in accordance with the choice of transmitter types. The equipment arrangement in the cabinet is Works Contractor's responsibility.

76.	EN-5.2 Telecommunication and signal installation design – telemetry, Router, TELECOM With reference to document EN-5.2 Telecommunication and signal installation design - telemetry, section 2.2 "Network Communication Equipment: Router (2G / 2G /3G/3.5G/3.75G/4G), CISCO C881G-4G-GA-K9", Bidder understands that 2G/3G/3.5G/3.75G/4G mobile contract is not in bidder scope. Company to confirm or advice otherwise.	Contract with the mobile service provider is not in the Works Contractor's scope. However, when selecting equipment type and setting it, Works Contractor is expected to check the area coverage of specific cellular network and select the brand / type fully covers all sites where equipment is fitted.
77.	EN-5.2 Telecommunication and signal installation design – telemetry, UPS, TELECOM With reference to document EN-5.2 Telecommunication and signal installation design - telemetry, Company is kindly requested to confirm if UPS for Telecommunications systems shall be integrated in Telecommunication cabinet only, or provided in separated cabinet.	UPS for Telecommunications systems shall be integrated in Telecommunication cabinet RO-T, as shown on the drawings in Volume 5, 21/18-1-T-5/2.1 -1.07, 21/18-1-T-5/2.1 -2.07, 21/18-1-T-5/2.1 -3.07, 21/18-1-T-5/2.1 -4.07.
78.	Technical Specification, para 6.5.1, Typical drawing trench section Drawings No 061 to 197 (21_18-1-T-2_1.1 Construction design of gas pipeline MG10", Fiber Optic Cable, TELECOM With reference to Technical Specification, para 6.5.1 and Typical drawing trench section contained in document Drawings No 061 to 197 (21_18-1-T-2_1.1 Construction design of gas pipeline MG10)", Bidder understands that only one fiber optic cable (TO SM 03 (12x12) x II x 0,4 x 3,5 CMAN G652D) shall be laid in a separate trench at least 2 meters from pipe. Bidder kindly requests to confirm or advice otherwise.	We confirm that only one fiber optic cable (TO SM 03 (12x12) x II x 0,4 x 3,5 CMAN G652D) shall be laid in a separate trench at least 2 meters from pipe.
79.	Technical Specification, 2.8 Right of Access to the Site, Temporary working areas requirement, Construction Extra temporary working area (in addition to the working belt) for pipeline installation at main crossings, Plant Facilities (Above Ground Installation) construction and pipe storage along the working strip are needed for the project.	We do not confirm. Please note Volume 3, Technical Specifications, section 2.8 Right of Access to the Site (FIDIC Sub-clause 2.1)

	Bidder assumes that these areas will be made available by COMPANY at the commencement date. Please confirm or advise otherwise.	Provision of any other extra temporary working area is responsibility of the Works Contractor.
80.	Technical Specification, 2.8 Right of Access to the Site, Pipe laydown area, Construction Company is kindly requested to clarify if the location of main pipe storage areas or laydown areas have been already defined.	The location of main pipe storage areas or laydown areas has not already defined and it is fully responsibility of Works Contactor. Additionally, please refer to the Answer No. 79.
81.	Technical Specification, UXO requirements, Construction Bidder assumes that unexploded ordnance/mine clearance has been already carried out by Company on project areas and site will be handed over to successful Bidder at the commencement date of the construction activites.	Please refer to Answer No. 24.
82.	Price List "EN-21CO~1", Price List, Construction Along with the price list, a part of the removal of humus (Price No. 1.4), Contractor cannot find any item relevant to the earth moving volumes for the right of way opening. Contractor is kindly asking Client to indicate the volumes of earth moving for the right of way and to clarify in which item the cost of the mentioned activity shall be included.	According to Volume 3, Technical Specifications, EARTH WORKS page 318: *"The work includes the surface excavation of humus (topsoil) made during excavation in a wide excavation on the route and in the lending site, as well as underfill thickness up to 40 cm thick with transport, or by machine pushing into the landfill on the side, in the belt land (right of way). All work must be carried out in accordance with the design and these technical conditions.* *Surface excavation of humus 20 to 40 cm thick should be excavated where necessary to prepare the subsoil (foundation soil). All excavated material should be deposited along the route outside the subsoil so that later use and access to it can be undisturbed. Transport, that is, pushing of the material into the landfill, must be carefully carried out in order to preserve the quality of the excavated humus, for later use, when arranging slopes and green areas, no mixing should be allowed humus material with other non-humus material.*

		This work is not measured separately, but the excavated thicknesses of the humus layer are plotted in transverse profiles. *Excavation and disposal of humus, storage of landfills during the execution of other construction and other works, with cleaning of the entire land after removal of the landfill is contained in the offered unit prices for wide excavation and embankment, per m3."*