MAHARASHTRA NATURAL GAS LIMITED	REPLY TO BIDDERS QUERIES AGAINST TENDER FOR PROCUREMENT OF 10" COATED LINE PIPES FOR CNG & CGD NETWORK OF MNGL, PUNE BID NO. MNGL/C&P/2019-20/07

Date: 29.04.2019

Replies to Queries of the Bidders

SUB: Replies to queries of the bidders for Tender for Procurement of 10" Coated Line Pipe for CNG & CGD Network of MNGL, Pune

REF: Bid Document No. MNGL/C&P/2019-20/07 dated 05.04.2019

Dear Sir,
Following are the replies to queries of the bidders. Kindly note the same.

Sl. No.	Bidder's Query / Clarification	MNGL' Reply
1	Cl. No. 4.2.2 – Financial Criteria: Net worth of the bidder as per the audited financial statement should be positive during FY 2017-18. Request to change it to "Net worth of the bidder as per the audited financial statement should be positive during FY 2018-19 or the latest Financial year.	Accepted for Financial criteria of Turnover, Working Capital and Net Worth. Bidder shall submit last 2 years audited financial statements i.e. 2017-18 & 2018-19. If the audited financial results of the immediate preceding financial year i.e. 2018-19 is not available, then the audited financial results of the year immediately prior to 2018-19 i.e. 2017-18 shall be considered for calculation of Annual Turnover, Net Worth and Working Capital as specified at Cl. 4.2 of Financial Criteria. **Also following part stands deleted from Cl. No. 4.2.3 (Working Capital):** **"Also the ratio of receivables against turnover shall be less than 10%."**
2	Annexure-I of IFB Delivery Schedule: Consignment to reach Warehouse within 16 weeks from the date of Purchase Order Please amend the same as 22 weeks form the date of Purchase order instead of tender clause. Sir Raw Material suppliers will take Minimum 2 to 3 Months for Raw Material supply and after that Bare pipe manufacturing and 3LPE Coating will take 1 months & after that transit time required of 1 week. So please amend the delivery schedule as 22 weeks from then date of PO.	Tender Condition Prevails.

3	Clause 1.1 of Client Spec MNGL/LINE-PIPE/TS/00 Client specification is based on API 5L 43th & 45th editions This is to inform you that the latest Edition of API 5L 46th has already been published and mandatory to implement by May 1, 2019, since we are API Licensee Edition.	Agreed. However stringent norms of Earlier edition shall be adhered.
4	Clause 5.4 of Client Spec MNGL/LINE-PIPE/TS/00 For Welded Pipes, the pipes shall be produced from plates / skelp which shall be quenched and tempered or controlled rolled or combined controlled rolled and accelerated cooled to impart uniformly fine ferritic grain structure to the finished steel. For Welded Pipes, the pipes shall be produced from plates / skelp which shall be quenched and tempered or controlled rolled or combined controlled rolled and accelerated cooled to impart uniformly fine ferritic grain structure to the finished steel with delivery condition of thermo-mechanically rolled as per table no 1 of API 5L 46th edition. Kindly confirm.	Agreed
5	Clause No. 9.8.5.2 of Client Spec MNGL/LINE-PIPE/TS/00 The reference standard shall contain notches (N5 or N10) or radially drilled holes (3.2mm). We understand that for HFW pipes, UT reference standard shall be as following. Please reconfirm. HFW weld seam: N10 notch & RDH 3.2mm Pipe body- 8 mm width X ½t Depth Circumferential slot.	Bidders understanding is correct.
6	Clause 9.5 - Client Spec MNGL/LINE-PIPE/TS/00 The measuring equipment requiring calibration or verification under the provisions of API 5L shall be calibrated with manual instruments at least once per operating shift (12 hours maximum). We shall follow the API 5L (46th edition) requirements regarding to comply the calibration & verification frequency of instruments & equipment.	Tender Condition Prevails.
7	Clause No. 9.8.5.4.2 of Client Spec MNGL/LINE-PIPE/TS/00	Tender Condition Prevails.

	Acceptance limit for material edge examination shall be as per criteria laid down for Acceptance Level E2 of BS 5996: 1993, which is reproduced hereunder for ready reference. We understand that the acceptance criteria for remaining plate/skelp (body) shall be as per Level B4 of BS 5996:1993. Please confirm.	
8	S. No. 6 Inspection & Test Plan- MNGL/LINE-Pipe/TS/00 **Destructive Testing: -** **Quantum of check:-** Material specification, 6-71-0005, PR. We understand that quantum of check shall be as per your technical specification MNGL/LINE-PIPE/TS/00 & Table No- 18 of API 5L 46th edition. Please confirm.	Agreed
9	Cl. No. 12.1.2 of Client Spec MNGL/LINE-PIPE/TS/00 PSL 2 Certification requirements The Manufacturer shall furnish to Purchaser a certificate of compliance including the requirements of (Appendix F, SR15). The certificate shall comply with ISO 10474 type 3.1.c. For tests witnessed by the Purchaser, type 3.1.c. certificates shall be issued. We understand that EN 10204 is equivalent to ISO 10474 as per Note 2 of CL. No. 10.1.1.1 of API 5L 45th latest Edition, hence we provide certificate as per EN 10204 type 3.1 or type 3.2.	Agreed
10	Cl. No. 1.1 SCOPE MNGL/ C & P/ 2019- 20/07 The Manufacturer shall have a valid license to use API Monogram for Manufacturing of line pipe in accordance with the requirements of API Spec. 5L, Forty Third Edition, March, 2004. 45th edition of API 5L may be followed however stringent conditions of API 43rd Edition /Technical specification shall govern We proposed to compliance of API 5L 45th edition	Agreed

11	Cl. No. 6.2 SMYS MNGL/LINE-PIPE/TS/00 Specified minimum yield strength (SMYS) but in no case it shall exceed 131 Mpa All Mechanical Properties will be as as per API 5L 45th Edition	Tender condition prevails
12	Appendix F SR 5.4 Impact Test MNGL/ C & P/ 2019- 20/07 For pipes of DN 250 (10 inch) or less, impact test specimens shall be taken parallel to the axis of the pipe (i.e. longitudinal specimens shall be taken). For pipes greater than DN 250 (10 inch), impact test specimens shall be taken transverse to the axis of the pipe, except where the wall thickness prevents extraction of a l0 x 5mm specimen, in which case longitudinal specimens shall be taken. For weld centerline and HAZ impact tests, only transverse specimens shall be used. As per API -5L 45 th edition Table 20 BSL Proposed Impact test for 273.1 mm OD Transverse specimens (i.e. Pipe Body, Weld & HAZ impact test) only	Agreed
13	Cl. No. 9.8.5.2 Ultrasonic and Electromagnetic Inspection Reference Standards MNGL/ C & P/ 2019- 20/07 The reference standard shall contain notches (N5 or N10) or radially drilled holes (3.2mm). The reference standard Weld Notch will be N10 and Radially drilled holes 3.2 mm	Agreed
14	Cl. No. 5.3.1 Properties of Epoxy powder and Adhesive Client spec. No. MNGL/PL COATING/TS/00 Epoxy powder properties shall be as per CSA Z245.20.98 CSA Z 245.20.98 is old version; We Will provide the Epoxy Powder Test Certificate as per Latest edition of CSA Z 245.20. Pl. Confirm	Agreed
15	Cl. No. 8.6.1 Strength Phosphoric acid Solution Client spec. No. MNGL/PL COATING/TS/00 10% Solution of Phosphoric acid 10% strength practically not possible. We Proposed Phosphoric Acid Concentration 10 ± 2%. Pl. Confirm	Agreed

16	Cl. No. 8.13.1 Strength of Chromate Solution Client spec. No. MNGL/PL COATING/TS/00 10% Solution of Chromate 10% strength practically not possible. We Proposed Phosphoric Acid Concentration 10 ± 2%. Pl. Confirm	Agreed
17	Cl. No. 5.3.3 (i) Degree of cure of ∆Tg Client spec. No. MNGL/PL COATING/TS/00 ∆Tg Requirement is +3/-2 °C test method is CSAZ 245.20 Degree of cure requirement i.e. ∆Tg = +3/-2°C specified in old version of CSA Z245.20 but in latest edition of CSA Z245.20 requirement is ≤ 5°C. Pl. confirm	Agreed
18	Cl. No. 20.7.1 Procurement of steel plates/coils MNGL/ C & P/ 2019- 20/07 Tata steel BSL Limited has not been included in the list Pl. include Tata Steel BSL Limited, Angul Plant in the list as we have the track record of supplying more than 2500 MT of pipes of API 5L Grade X42, PSL-2 for which the HRC from Angul Plant was used.	May be considered subject to the submission of the credentials at the time of bidding.
19	1.1 The Manufacturer shall have a valid license to use API Monogram for Manufacturing of line pipe in accordance with the requirements of API Spec. 5L, Forty Third Edition, March, 2004. 45th edition of API 5L may be followed however stringent conditions of API 43rd Edition /Technical specification shall govern. Pipe shall be supplied as per API 5L 46th Edition.	Agreed. However, the stringent norms in the earlier editions shall be adhered.
20	5.4 For Welded Pipes, the pipes shall be produced from plates / skelp which shall be quenched and tempered or controlled rolled or combined controlled rolled and accelerated cooled to impart uniformly fine ferritic grain structure to the finished steel. Other types of heat treatment shall be agreed upon between purchaser and Manufacturer. Steel shall be thermo mechanically rolled.	Agreed

21	6.2 Vickers hardness tests shall be carried out on each specimen taken for metallographic examination in accordance with ASTM E- 92. ASTM E-92 has been withdrawn and replaced by ASTM E384 Please refer API 5L 46th edition	Agreed
22	7.4 All pipes shall be supplied with length between 11.5m and 12.5m. However, for test sampling pipe having length between 10.0 m and 11.5 m can also be accepted. The minimum average length of the entire order shall be 12.0m. API Spec. 5L Table-11 shall not be applicable. We propose for length between 10.0 to 11.5 m shall be 10% of ordered quantity including test sample pipe and defect cut pipes. Proposed average length shall be 11.8 m.	Tender condition prevails
23	9.4.3 The test pressure for all sizes and grades of pipe shall be such that hoop stress (fibre stress) generated is at least 95% of SMYS, computed based on the formula mentioned in API Spec 5L para 9.4.3 (Note 2). Para 9.4.3 (Note 2) is deleted in 45th edition of API 5L. Test pressure shall be as per 45th edition of API 5L.	Tender condition prevails
24	9.5 The measuring equipment requiring calibration or verification under the provisions of API 5L shall be calibrated with manual instruments at least once per operating shift (12 hours maximum) Shift wise calibration of measuring equipment is not possible, measuring equipment shall be calibrated from outside authorized calibration agency or In house internal practice.	Tender condition prevails.
25	9.8 Manufacturer shall comply with the provisions regarding inspection notice, plant access, compliance and rejection mentioned in Appendix H of API Spec 5L Appendix H of 43rd edition is deleted in 46th edition of API 5L. Nondestructive test shall be carried out as per API 5L 46th edition.	Tender condition prevails.

26	9.8.3.3 Coil for EW pipe may be tested after welding of The longitudinal seam by rotary ultrasonic testing of the pipe body. We shall do Coil UT instead of pipe body UT.	Tender condition prevails
27	10.3.5 A color code band shall be marked on inside surface of finished pipe for identification of pipes of same diameter but different wall thickness, as indicated in the Purchase Order. We understand, it shall not be applicable for this enquiry as due to only one Size & thickness. Hence, it may be waived off.	Agreed
28	4.2 The coating materials Manufacturer shall carry out tests for all properties specified in Para 5.3.1 and 5.3.2 for each batch of epoxy, adhesive and polyethylene compound. Raw material for polyethylene and adhesive are as per ISO 21809-1 or as per DIN 30670 rest tests will be typical values supported by reputed lab reports.	Tender condition prevails
29	4.3 c) iv, Moisture content for Polyethylene No specific criteria provide, we perform test as per raw manufacturer test certificate.	Agreed
30	5.3.3 Properties of coating system We propose as per latest edition of DIN 30670, for test method and acceptance criteria requirement as per tender specification.	Agreed
31	5.3.3 h Cathodic Disbondment @+65°C after 30 days @+65°C after 48 hrs We understand this is min. temperature or provide tolerance.	Agreed
32	5.3.3 i Degree of Cure of Epoxy - Percentage Cure = 95% - △ Tg = +3/-2 We propose as per latest CAN/CSA 245.20	Agreed

	- Percentage Cure = 95% - △ Tg = +5°C	
33	6.0 Measurement and logging We will maintain data in SAP system and provided pdf format in C.D	Agreed
34	8.6.1 All pipes shall provided chemical pretreatment with phosphoric acid solution. 10% solution of phosphoric acid, Oakite 31 / 33 or equivalent, shall be used to remove all soluble salts and other soluble contaminations. Exact 10% is not practical; we maintain it may min. 10% or 10+/- 2%.	Agreed
35	8.7 Surface of pipe after abrasive blast cleaning shall have anchor pattern of 50 to 70 microns (Rz). This shall be measured for each pipe by a suitable instrument such as surface profile depth gauge. We propose roughness 40 to 90 as per DIN 30670 and roughness measure by digital roughness gauge every hour.	Tender condition prevails.
36	8.13.1 Following completion of abrasive blast cleaning, all pipe surfaces shall be chemically Pre-treated with a 10% strength chromate solution. Exact 10% is not practical; we maintain it may min. 10% or 10+/- 2%.	Agreed
37	8.13.4 The concentration shall be checked at the makeup of each. Fresh solution and once per hour, using a method approved by the chemical manufacturer. We propose that once solutions in prepared sufficient amount for one shift so you are requested for revise frequency once/shift.	Tender condition prevails
38	9.2.3 In case the relative humidity exceeds 80%, the adhesive and polyethylene material shall be dried using hot air as per the directions of COMPANY representative.	Tender condition prevails.

	Our understanding is measuring of humidity at material feeding area.	
39	9.2.7 The extrusion temperatures of the adhesive and Polyethylene shall be continuously recorded. The monitoring instruments shall be independent of the temperature control equipment. The instruments shall be calibrated prior to start of each shift. We proposed that such instrument calibrated in specialized equip laboratory, we proposed review of outside lab calibration certificated and adhesive and polyethylene temperature once per hour.	Tender condition prevails.
40	10.3 The coating thickness shall be determined by taking at least 10 measurements at locations uniformly distributed over the length and periphery of each pipe. During the PQT pipes, thickness will be measured for each pipe. After consistence result of regular production, it may reduce to one hour in place of each pipe.	Tender condition prevails
41	10.5.b The system shall disband / separate cohesively either in adhesive layer or in polyethylene layer. Majority of the peeled off area on the pipe shall show presence of adhesive. Disbondment/ separation at epoxy to steel interface or epoxy/ adhesive interface or adhesive/ polyethylene Interface shall not be permitted. The failure mode shall be recorded for each test. We proposed that, we use adhesive as per specification is cl no. 9.2.1 (ii), Grafted co polymer adhesive, Due to this material characteristics failure mode in not always cohesively, its bond strength is higher than specification requirement and beyond that it not separate from cohesively, however we agree for epoxy to steel Disbondment shall not permitted, we propose cohesive criteria will deviate grafted adhesive as describe in ISO 21809-1 table 7, Note C.	Tender condition prevails
42	12.0 Repair materials clearly establishing the compliance of the repair materials with the	Tender condition prevails.

	applicable coating requirements indicated in this specification. We understand its compliance is not for properties described on this specification cl no. 5.3.3. Because repair material properties are different than plant applied 3LPE coating. If there is any other requirement for repair material, please specify.	
43	Irrespective of type of repair, the maximum numbers of repair of coating shall be as follows: We understand that repair generated due to tests is not covered this criteria.	Tender condition prevails.
44	Test Frequency Table – 2 Frequency (1) Test frequency shall be as indicated in this table and the frequency indicated in the applicable paragraphs of the specific are not applicable. We consider this frequency for PQT pipe only.	Tender condition prevails.
45	Test Frequency Table – 2 Bond Strength , Frequency 5 Pipes As maximum 4 pipes of 3LPE coated available out of 5 pipes selection as per PQT clause, we consider 4 pipes for testing.	Agreed
46	Test Frequency Table – 2 Indentation hardness , Frequency 5 Pipes As maximum 4 pipes of 3LPE coated available out of 5 pipes selection as per PQT clause, we consider 4 pipes for testing.	Agreed
47	Test Frequency Table – 2 Cathodic Disbondment; Frequency 2 Pipes and two tests each on the selected pipes i.e. 30 days	Tender condition prevails.

	and 48 hours test shall be carried out on each test pipe. We conduct one test for 48 hrs on one pipe and 30day test on another pipe or both test on one pipe as per 3lpe specification, please confirm.	
48	Test Frequency Table – 2 Degree of Cure ; Frequency 2, We understand it's a one pipe partly coated and one pipe 3LPE coated, Please confirm	Tender condition prevails.
49	Cl. No. 1.0 of Spec. No.: MNGL/PLCOATING/TS/00 3 Layer Side Extruded Polyethylene Coating conforming to DIN-30670, 1991. Bidder has considered the latest version **DIN-30670, 2012** to be followed for 3LPE coating. Please confirm.	Agreed
50	Cl. No. 4.2 of Spec. No.: MNGL/PLCOATING/TS/00 The coating materials Manufacturer shall carry out tests for all properties specified in para 5.3.1 and 5.3.2 for each batch of epoxy, adhesive and polyethylene compound. All mentioned tests in Cl. No. 5.3.1 & 5.3.2 of client spec. shall be performed by Raw material manufacturer. They will supply Test Certificate for each batch with tested value and typical values. The same to be reviewed to TPI.	Tender condition prevails.
51	Cl. No. 5.3.1 of Spec. No.: MNGL/PLCOATING/TS/00 Epoxy powder properties shall be as per CSA Z245.20.98. Bidder has considered the latest version **CAN/CSA Z245.20-2018**. Please confirm.	Agreed
52	Cl. No. 5.3.3 (i) of Spec. No.: MNGL/PLCOATING/TS/00 Degree of Cure of Epoxy - ΔTg = (+3/-2)°C Bidder intent to clarify that the acceptance criteria of ΔTg shall be ≤ 5°C as per latest version CAN/CSA Z245.20-18.	Agreed

53	Cl. No. 8.6.1 of Spec. No.: MNGL/PLCOATING/TS/00 All pipes shall provided chemical pre-treatment with phosphoric acid solution. 10% solution of phosphoric acid, Oakite 31 / 33 or equivalent, shall be used to remove all soluble salts and other soluble contaminations. Bidder intent to clarify that the phosphoric acid solution shall be maintain minimum 10%. Please confirm.	Agreed
54	Cl. No. 8.7 of Spec. No.: MNGL/PL COATING/TS/00 Surface of pipe after abrasive blast cleaning shall have an anchor pattern of 50 to 70 microns (Rz). This shall be measured for each pipe by a suitable instrument such as surface profile depth gauge. Bidder propose to anchor pattern shall be maintain minimum 50 micron and roughness measure by digital roughness gauge.	Tender condition prevails.
55	Cl. No. 8.13.1 of Spec. No.: MNGL/PL COATING/TS/00 Following completion of abrasive blast cleaning, all pipe surface shall be chemically Pre-treated with a 10% strength chromate solution. Bidder intent to clarify that the chromate solution shall be maintain minimum 10%. Please confirm.	Agreed
56	Cl. No. 8.13.4 of Spec. No.: MNGL/PL COATING/TS/00 The CONTRACTOR shall check that the concentration for the chemical pretreatment solution remains within the range recommended by the chemical manufacturer for the pipe coating process. The concentration shall be checked at the make up of each fresh solution and once per hour, Bidder proposed for revise frequency once per shift.	Tender condition prevails
57	Cl. No. 9.2.8 of Spec. No.: MNGL/PL COATING/TS/00 The extrusion temperatures of the adhesive and polyethylene shall be continuously recorded. The monitoring instruments shall be independent of the temperature control equipment. The instruments	Tender condition prevails

	shall be calibrated prior to start of each shift. Bidder proposed that such instrument calibrated in specialized equip laboratory, we proposed review of outside lab calibration certificated and adhesive and polyethylene temperature once per hour.	
58	Cl. No. 10.4 of Spec. No.: MNGL/PL COATING/TS/00 The holiday detector shall be a low pulse DC full circle electronic detector with audible alarm and precise voltage control with DIN VDE 0433 Part 2. DIN VDE 0433 Part 2 has been withdrawn. We confirm that holiday detector shall be as per Annex E of DIN 30670.	Agreed
59	Cl. No. 10.5 of Spec. No.: MNGL/PL COATING/TS/00 **Bond Strength Test** The frequency of test for cut back portions shall be one pipe in every fifteen (15) pipes coated and for middle of pipe shall be one pipe in every sixty (60) pipes coated or one pipe per shift whichever is higher. For Peel Test at middle, We will perform the test at maximum feasible distance from pipe end.	Tender condition prevails.
60	Cl. No. 10.5 of Spec. No.: MNGL/PL COATING/TS/00 The system shall disband / separate cohesively either in adhesive layer or in polyethylene layer. Majority of the peeled off area on the pipe shall show presence of adhesive. Disbondment / separation at epoxy to steel interface or epoxy/ adhesive interface or adhesive/ polyethylene interface shall not be permitted. The failure mode shall be recorded for each test. Bidder proposed cohesive criteria will deviate for grafted adhesive, as describe in ISO 21809-1 table 7, Note C.	Tender condition prevails.
61	Cl. No. 13.0 of Spec. No.: MNGL/PL COATING/TS/00 **MARKING** Colour band Please provide the colour coding requirement. If any.	Please follow API standard.

<table>
<tr><td>62</td><td>Annexure-I of Spec. No.: MNGL/PL COATING/TS/00
List of acceptable combination of 3LPE coating materials :
PE compound: HE 3450 (Borealis)

Bidder has considered approved material PE compound HE3450 (Borouge/Borealis) instead of HE3450 (Borealis). Please confirm.</td><td>Tender condition prevails.</td></tr>
<tr><td>63</td><td>Cl. No. 6.0 (Table-2) of Technical input for 3-Layer side-extruded polyethylene coating of pipes

Test Frequency
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Table – 2
Frequency (1)

Bidder understands that the test frequency specified in table -2 is applicable only for procedure qualification test (PQT).</td><td>Tender condition prevails.</td></tr>
<tr><td>64</td><td>Cl. No. 6.0 (Table-2) of Technical input for 3-Layer side-extruded polyethylene coating of pipes

<table><tr><th>Sr. No.</th><th>Properties</th><th>Frequency (1)</th><th>Applicable Requirement</th></tr><tr><td>1)</td><td>Cathodic Disbondment</td><td>2 Pipes</td><td>Para 5.3.3(h) & 7.5.2(e)(2)</td></tr></table>
Two tests each on the selected pipes i.e 30 days and 48 hours test shall be carried out on each test pipe.

Bidder proposes to CD test shall be performed one pipe two test for PQT (i,e one sample for 48 hours & one sample for 30 days).</td><td>Tender condition prevails.</td></tr>
<tr><td>65</td><td>Extension of due date of submission of bid</td><td>Due date of submission of bid is extended upto 03.05.2019, 15:00 hours</td></tr>
</table>

Please submit the signed & stamped copy of Replies to Queries of the Bidders along with tender document with your techno-commercial offer as a token of acceptance.

All the others terms and conditions of the bid documents are unchanged.

With regards.

Ganesh Said
Sr. Manager (C&P)