

INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
1	IGL-SS-PP-2008	9.8.2.1	CVN Impact Test	Testing shall be performed at a test temperature of 0°C. However, as per material requisition 18969-IGL-PL-MR-001 Note 5.0, Charpy impact test shall be carried out at (-) 29°C	We understand Charpy impact test shall be carried out at (-) 29°C as per MR note.	Bidder's understanding is correct
2	IGL-SS-PP-2008	9.11.3.3	Pipe Length	All pipes shall be supplied with length between 11.5 m and 12.5 m. However pipe with length between 10.0 m and 11.5 m can also be accepted for a maximum of 5% of the ordered quantity. The minimum average length of the entire ordered quantity in any case shall be 12.0m.	Due to limitation of max. pipe length 12.2mtrs for transportation as per RTO, The minimum average length of the entire ordered quantity may be allowed 11.9 m.	Tender conditions Prevail
3	IGL-SS-PP-2008	9.11.3.4	9.11.3.4 b)	The local deviation from straight line, as depicted in Figure 2 of API Spec 5L, in 1.0 m (3.0 ft) portion at each pipe end shall be ≤ 3.0 mm (0.120 in)	The local deviation from straight line in 1.5 meter portion at each pipe end shall be ≤ 3.2 mm as per API 5L 46th edition requirement. Please confirm.	Confirmed
4	18969-IGL-PL-MR-001	Notes -4.0	HR Coils	Steel shall be procured from approved steel mill only.	Please provide approved steel mill list for procurement.	Bidder can procure material from the manufacturer who has PTR of at least 50 Metric ton of specified material grade and thickness or above and meeting the technical requirement of specified codes and standards
5	18969-IGL-PL-MR-001	Notes -12.0	Pipe ID inspection	Pipe Internal Diameter inspection by Pull through (95% of ID) shall be carried out by bidder during handling over pipes to owner.	Pipe OD & ID(OD-2T) shall be maintained as per client spec & API 5L 46th Ed., As well (OOR) Out of roundness will also be maintained as per spec. hence pipe ID inspection by pull through (95% of ID) may be waived off.	Tender conditions Prevail
6	IGL-ITP-PP-2016	3.3	Coil UT	1) 25mm (Min) from edges 2) 20 % Min Coverage in Bal. part of Coil	UT shall be performed on manufactured pipe with compliance as full body UT on each pipe with min. 100% body coverage.	Tender conditions Prevail
7		MR 5.0		Pipe size: HFW/SMLS PIPE of Grade API 5L Gr. B, PSL-2 1) 114.30 mm OD x 6.4 mm WT, Qty : 48000 meters 2) 168.30 mm OD x 6.4 mm WT, Qty : 48000 meters HFW/SMLS PIPE of Grade API 5L Gr. X 52 PSL-2 3) 219.10 mm OD x 6.4 mm WT, Qty : 135200 meters HFW/SMLS PIPE of Grade API 5L Gr. X 60 PSL-2 4) 323.90 mm OD x 6.4 mm WT, Qty : 13500 meters	We would like to mention that we will consider Coating pipe length should be 9 to 12 meters pipes. Kindly confirm the same.	All pipes shall be supplied with length between 11.5 m and 12.5 m. However pipe with length between 10.0 m and 11.5 m can also be accepted for a maximum of 5% of the ordered quantity. The minimum average length of the entire ordered quantity in any case shall be 12.0 m
8		General		4" & 6" through Seamless Process	We are the manufacturer of 4" & 6" through Seamless Process, we request you to kindly provide the seamless specification for the same.	Tender conditions shall prevail
9		General		HR Coil & Billet Supplier	We request you to kindly provide the " HR Coil" & Billet Supplier List against this tender.	Bidder can procure material from the manufacturer who has PTR of at least 50 Metric ton of specified material grade and thickness or above and meeting the technical requirement of specified codes and standards
10		General		Contract Period 12 Month	We request you to kindly amend the contract period of 12 month and consider it 6 month or may be delete the contract period and revise as delivery period as per IGL requirement. Kindly confirm the same.	Tender conditions shall prevail
11		Table-7 (10), 8.5.2.15 , Table- 12 (4.17 & 4.18) & 8.5.2.16		The long duration Tests Specific Electrical Coating Resistance(Coating Resistivity), Heat Ageing & Light Ageing. - Test carried out in an independent laboratory of national /international recognition on PE topcoat.	we understand that As per table-12 Sr. No. 4.17 & 4.18 ,The long duration Tests Specific Electrical Coating Resistance(Coating Resistivity), Heat Ageing & Light Ageing, We will submit manufacturer test data for review the certificate conducted within 3 years. Kindly confirm the same.	Tender conditions shall prevail
12		Table-12 (Sr. No. 2.11,2.12,2.13)		Teating frequency during production: 1) Hot water Adhsion 24 h at 75°C ±3°C : 1/ shift (1 sample) 2) Cross section porosity : 1/ shift (2 samples) 3) Interface porosity : 1/ shift (2 samples)	We noted to conduct these tests, however for information these tests are required to conduct on FBE coating & destructive type test so we need to cut one pipe every shift for testing purpose. We propose to accept these testing during PQT only. Kindly confirm the same.	Tender conditions shall prevail
13		Table-7 (4)&(5)		1) Indentation of PE top coat @ 230C+/-20C @800C+/-20C 2) Strain at Break of PE Top Coat at 230C +/-30C	It is typo error, 1) As per material manufacturer Indentation of PE top coat at 23°C +/- 2°C and 80°C +/- 2°C. 2) As per material manufacturer Strain at Break of PE Top Coat (% Elongation test at break) at 23°C +/- 3°C. We consider the same, Kindly confirm the same.	Confirmed
14		5.4.4, Table- 5, (6 & 10) Table- 6, (2 & 3)		1) FBE layer testing: Hot Water Adhesion 28 days, Impact Resistance at 0°C. 2) Adhesive layer: Strain at Break at 23°C ± 3°C ≥ 600% Stress at Yield at 23°C ± 3°C: ≥ 8 MPa	1) We will submit the test report provided by material manufacturer for hot water 28 days and Impact test @ 0°C on FBE layer as these tests are typical test. 2) We will submit test report provided by material manufacturer for Strain at Break and Stress at Yield are typical properties. as per material manufacturer, these are typical properties and check by material manufacturer in raw material only not for coating properties.	Confirmed
15		5.4.3, Table- 4, (11)		Oxidation Induction Time (Intercept in the tangent method) : ≥ 30 at 2100C	It is typo error, as per material manufacturer Oxidation Induction Time is ≥ 30 at 210°C. We consider the same.	Bidder's understanding is correct

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16		7.1.4		All pipes shall be preheated to a temperature of 65°C to 85°C prior to abrasive blast cleaning using induction heating or radiant heating.	we would like to mentioned that We will use diesel fired oven for heating of pipes before blast cleaning to ensure pipe temperature 65°C to 85°C as per project requirement. Kindly confirm the same.	Tender conditions shall prevail
17		8.5.2.4		Peel strength tests one at each end and one in the middle of the pipe.	we would like to mentioned that Middle Peel test shall be conducted apart from cut back area at feasible distance approx. 400 mm from pipe end. Kindly confirm the same.	Confirmed
18		4.2		The coating material manufacturers shall carry out tests for all properties specified in clause 5.4.1, 5.4.2 & 5.4.3 and Table 2, 3 & 4 respectively for each batch of epoxy, adhesive and polyethylene compound.	we would like to mention that Raw material MTC shall be provided by material manufacturer to confirm specification requirement with few properties mentioned as typical result as per material manufacturer standard practice. Kindly confirm the same.	Tender conditions shall prevail
19		15.0		Tolerance for in-house Verification of instruments: 1) Holidat detector : ± 2% 2) Digital Thermometer : ± 2% 3) Optical Pyrometer : ± 2%	1 &2) Very narrow tolerance for in- house verification of Holiday detector & Digital thermometer, it is not possible to maintain. We consider the tolerance for in- house verification of Holiday detector is ±10% as per ISO 21809-1. 3) We use the online digital temperature indicator calibrated by External agency for monitoring the temperature of bare / blasted / coated pipes and PE & Adhesive film, which will be verified by digital thermometers / IR Gun twice per shift. Kindly confirm the same.	Tender conditions shall prevail
20				Barcode/QR code labels, End Seal Tape Application and any other Stickers.	We are not considering the Barcode/QR code labels, End Seal Tape Application and any other Stickers. If required Please confirm as it is cost impact. Kindly confirm the same.	Tender conditions shall prevail
21		5.2		The topcoat polyethylene used shall be a black readymade compound, fully stabilized against influence of ultraviolet radiation (i.e., sunlight), oxygen in air and heat (due to environmental temperature up to +80°C). No appreciable changes shall occur during exposure to such environments up to at least a period of 8500 hours. The Applicator / Contractor shall submit certificate from Manufacturer in this regard.	We will submit one time Declaration letter provided by material manufacturer topcoat polyethylene. Kindly confirm the same.	Tender conditions shall prevail
22		8.4		Qualification of Coating Repair: Cosmetic Repair, Repair with Melt Stick, Patch Repair & Heat- shrinkable Sleeve (HSS) Repair	We will submit the repair qualification report provided by repair material manufacturer. During production we will perform the repair as per manufacturer recommendation and Approved Repair procedure. Kindly confirm the same.	Tender conditions shall prevail
23		7.1.7		Abrasives used for blast cleaning shall comply ISO 11124. Hardness, size and ratio of shot and grit to be used in abrasive Blaster #1 & #2 shall be specified in the Inspection and Testing Plan (ITP) test plan to meet the required surface profile and other surface preparation criteria.	we inform you that 11124 – Part-3 as per project specification Table-6 requirement, which is specific to steel shot and grit material. Other part of ISO 11124 is not applicable for steel shot grit material. Kindly confirm the same.	Tender conditions shall prevail
24		MR NOTE-22		Color bands of 50 mm width to be placed at both the ends, inside of Bare Pipes at a distance of 150 mm from the pipe ends and outside of 3LPE Coated Pipes at a distance of 450 mm from the pipe ends.	We will apply color band on Coated pipes at one end at a minimum distance of 450mm from pipe bevel end. Please confirm Color Band, Kindly confirm the same.	Confirmed
25	IGL-SS-PP-2008	Cl. No. 2	15/182	Standard Test Method: ASTM E112-12: Standard Test Methods for Determining Average Grain size	The ASTM E112-12 edition is now obsolete and has been replaced by the 2025 edition. We will adhere to the latest 2025 edition. i.e.: ASTM E112-25 Kindly confirm	Confirmed
26	IGL-SS-PP-2008	Cl. No. 9.11.3.4 (b)	22/182	Tolerance of straightness: The local deviation from straight line, as depicted in Figure 2 of API Spec 5L, in 1.0 m (3.0 ft) portion at each pipe end shall be ≤ 3.0 mm (0.120 in).	This requirement is as per 45th edition of API 5L. It is modified in 46th edition of API 5L. "The local deviation from straight line in 1.5 meter portion at each pipe end shall be ≤ 3.2 mm."	Confirmed
27	Technical specification	Annexure-I	111/182	List of acceptable combinations of coating materials: PE Compound (Manufacturer): HE 3450H (BOREALIS / BOROUGE)	We propose to use HE 3450 for PE compound instead of HE 3450H, as the technical requirement of both HE 3450 and HE 3450H grade are almost identical. Also, we assure you that it will not affect the applied coating properties. We shall meet all coating properties and all required testing as per technical specification. Please confirm.	Tender conditions shall prevail

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28	Technical specification	Annexure-I	111/182	List of acceptable combinations of coating materials: PE & Adhesive manufacturer	We would like to propose BLS Polymer as an approved supplier for adhesive and polyethylene (PE) materials, which has already received approval from EIL and other reputed clients in the industry. (Refer attachment-1) Furthermore, considering the current global supply chain constraints, importing materials from outside India has become increasingly challenging due to logistical disruptions, extended lead times, and escalating freight costs. In alignment with the Government of India's "Make in India" initiative and its directive to prioritize domestically manufactured products, we strongly recommend the approval of BLS Polymer as a qualified indigenous supplier. BLS Polymer's adhesive and polyethylene products fully comply with the applicable technical specifications. Attachment-1	Tender conditions shall prevail												
29	ANNEXURE-I LIST OF ACCEPTABLE COMBINATIONS OF COATING MATERIALS			<table><tr><th>Epoxy Powder (Manufacturer)</th><th>Adhesive (Manufacturer)</th><th>PE Compound (Manufacturer)</th></tr><tr><td>JOTAPIPE AC 2002 (Formerly, CORRO-COAT EP-F 2002HW) (JOTUN) OR SCOTCHKOTE 226N (3M) OR PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)</td><td>LUCALEN G3710E (LYONDELLBASELL)</td><td>LUPOLEN 4552 D (LYONDELLBASELL)</td></tr><tr><td>JOTAPIPE AC 2001 (Formerly, CORRO-COAT EP-F 2001) / 2002 (Formerly, CORRO-COAT EP-F 2002HW) / JOTAPIPE AC 1001 (Formerly, CORRO-COAT EP-F -1003HW) (JOTUN) OR SCOTCHKOTE 226N (3M) OR PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)</td><td>ME 9420 (BOREALIS)</td><td>HE 3450H (BOREALIS / BOROUGE)</td></tr><tr><td>JOTAPIPE AC 2001 (Formerly, CORRO-COAT EP-F 2001) (JOTUN) OR PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)</td><td>LE149V (HYUNDAI ENGINEERING PLASTICS)</td><td>ET309B (HYUNDAI ENGINEERING PLASTICS)</td></tr></table>	Epoxy Powder (Manufacturer)	Adhesive (Manufacturer)	PE Compound (Manufacturer)	JOTAPIPE AC 2002 (Formerly, CORRO-COAT EP-F 2002HW) (JOTUN) OR SCOTCHKOTE 226N (3M) OR PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)	LUCALEN G3710E (LYONDELLBASELL)	LUPOLEN 4552 D (LYONDELLBASELL)	JOTAPIPE AC 2001 (Formerly, CORRO-COAT EP-F 2001) / 2002 (Formerly, CORRO-COAT EP-F 2002HW) / JOTAPIPE AC 1001 (Formerly, CORRO-COAT EP-F -1003HW) (JOTUN) OR SCOTCHKOTE 226N (3M) OR PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)	ME 9420 (BOREALIS)	HE 3450H (BOREALIS / BOROUGE)	JOTAPIPE AC 2001 (Formerly, CORRO-COAT EP-F 2001) (JOTUN) OR PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)	LE149V (HYUNDAI ENGINEERING PLASTICS)	ET309B (HYUNDAI ENGINEERING PLASTICS)	As discussed during the pre-bid meeting, we understand that the addition/approval of any new coating material manufacturer and/or coating material combination will be permitted during the execution of the contract, i.e., after the award of the contract. Accordingly, it is requested to kindly confirm that the list of acceptable coating material combinations provided in Annexure-I is not exhaustive, and that additional coating material suppliers and/or coating combinations may be proposed by the successful bidder during contract execution for approval.	Tender conditions shall prevail
Epoxy Powder (Manufacturer)	Adhesive (Manufacturer)	PE Compound (Manufacturer)																
JOTAPIPE AC 2002 (Formerly, CORRO-COAT EP-F 2002HW) (JOTUN) OR SCOTCHKOTE 226N (3M) OR PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)	LUCALEN G3710E (LYONDELLBASELL)	LUPOLEN 4552 D (LYONDELLBASELL)																
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30	General Practice			Cut to Length (CTL)/Centre slitting Plates.	Bidder intent to clarify that being small diameter pipes, HR coils might be procured in lieu of steel plates. Coils shall be sheared for producing cut to length plates or by centre slitting of length as per client specification. The traceability of heat number and coil number shall be maintained.	Ok												
31	MATERIAL REQUISITION, Doc. No. 18969-IGL-PL-MR-001 HFW technical spec, Doc. No. Doc. No. IGL – SS – PP – 2008 ITP of HFW pipes, Doc. No. IGL – ITP – PP – 2016			DOCUMENT PRECEDENCE Reference documents Project Documents	Bidder has considered following specifications while evaluating the enquiry. 1.TENDER NO. IGL/ET2/CP/CP18969 2.MATERIAL REQUISITION, Doc. No. 18969-IGL-PL-MR-001, Rev. 00 3.STANDARD SPECIFICATION FOR HIGH FREQUENCY WELDED LINE PIPE, Doc. No. IGL – SS – PP – 2008. 4.INSPECTION AND TEST PLAN FOR HFW LINE PIPES, Doc. No. IGL – ITP – PP – 2016. 5.INSPECTION AND TEST PLAN FOR RAW MATERIAL (HR COIL/ PLATES), Doc. No. IGL – ITP – PP – 2026 6.API 5L 46th Edition (April 2018) & Errata-1 (May 2018) All other documents received with this bid package are retained for information only.	Tender conditions shall prevail												
32	CL. No. 2.0, 2.1 of SECTION I INVITATION FOR BID (IFB), Doc. No. IGL/ET2/CP/CP18969 Cl. No. 5.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001			2.0 BRIEF SCOPE 2.1 The scope of supply covers Design, Manufacturing, Inspection, Testing, Coating of 3LPE and Transportation of Carbon Steel Line Pipes to IGL store/sites to be used in City Gas Distribution Project in NCT of Delhi, Uttar Pradesh, Haryana and Rajasthan as per details given below: 5.0 SCOPE OF SUPPLY The scope of supply covers Design, Manufacturing, Inspection, Testing, coating of 3LPE and Transportation of Carbon Steel Line Pipes to IGL Site/ store to be used in City Gas Distribution Project in NCT of Delhi, Uttar Pradesh, Haryana and Rajasthan as per detail given below:	Bidder clarifies that Design is not in our scope. Our scope of work is manufacturing, testing, inspection of ERW pipe in accordance with API 5L 46th edition & Client specifications.	Tender conditions shall prevail												
33	Cl. No. 13.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001			Pipe roughness shall be 40 Micron	Bidder clarifies that pipe roughness shall not be applicable for bare pipes.	This shall be applicable for the portion of the pipe that is bare.												
34	Cl. No. 12.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001			Pipe Internal Diameter inspection by Pull through (95% of ID) shall be carried out by bidder during handling over pipes to owner.	Bidder request to provide the length/drawing of gauge.													
35	NOTES, MR, Doc. No. Doc. 18969-IGL-PL-MR-001			NOTES 4.0 Steel shall be procured from approved steel mill only	Bidder clarifies that we have not received the approved steel mill list. Kindly arrange the approved steel mill list.	Bidder can procure material from the manufacturer who has PTR of at least 50 Metric ton of specified material grade and thickness or above and meeting the technical requirement of specified codes and standards												

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36	Cl. No. 14.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001 Cl. No. 9.12, 9.12.5, 9.12.5.6 of HFW spec, Doc. No. IGL-SS-PP-2008			14.0 For butt weld end, bevel shall be in accordance with API specification 5L. 9.12 Finish of Pipe Ends 9.12.5 Plain ends 9.12.5.6 (New) During removal of inside burrs at the pipe ends, care shall be taken not to remove excess metal and not to form an inside cavity on bevel. Removal of excess metal beyond the minimum wall thickness as indicated in clause 9.11.3.2 of this specification shall be a cause for re-bevelling. In case root face of bevel is less than that specified, the pipe ends shall be re-bevelled and rectification by filing or grinding shall not be done.	Bidder understands that pipe ends shall be bevelled as per API 5L i.e. bevel angle 30°-35° and root face 1.6 mm ± 0.8 mm. Please confirm.	Bidder's understanding is correct
37	Cl. No. 15.0, 16.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001 CL. No. 9.12.5.7 of HFW spec, Doc. No. IGL – SS – PP – 2008			15.0 Both pipe ends of each pipe shall be provided with metallic or high impact plastic bevel protectors/end cap as per Manufacturer's standard. Bevel protectors/end shall be of a design such that they can be re-used by coating applicator for providing on externally anticorrosion coated pipes subsequent to coating of line pipe. The details of the bevel protector/end caps shall be furnished for approval prior to start of the production. 16.0 Plastic push fit types end caps shall be installed on all small diameter pipe ends. 9.12.5.7 (New) Bevel Protectors Both pipe ends of each pipe shall be provided with metallic or high impact plastic bevel protectors as per Manufacturer's standard. Bevel protectors shall be of a design such that they can be re-used by coating applicator for providing on externally anti-corrosion coated pipes subsequent to coating of line pipe.	Bidder would like to use reusable or metallic bevel protectors with plastic End cap fixed to the pipe ends to prevent the ingress of moisture, dust, and other foreign materials.	Confirmed Small diameter pipes (6" & 4" dia) may be supplied with plastic end caps. 12" & 8" Dia pipes shall be supplied with metallic bevel end protectors.
38	Cl. No. 20.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001			20.0 Indicative ITP for line pipe & Coating is enclosed with MR/Tender. Minimum inspection and testing requirement of the line pipes shall be governed by attached ITP with Tender. Vendor shall submit their ITP after award for approval covering the requirement specified in tender ITP	Bidder clarifies that the received ITP (HFW) shall be retained for information, however the project specific ITP shall be submitted after award of contract. The Inspection Innervation of TPI/Client shall be discussed and mutually agreed after award of contract.	Confirmed
39	Cl. No. 22.0, 23.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001			22.0 Color bands of 50 mm width to be placed at both the ends, inside of Bare Pipes at a distance of 150 mm from the pipe ends and outside of 3LPE Coated Pipes at a distance of 450 mm from the pipe ends. 23.0 White Band marking inside for all the items.	Bidder clarifies that, due to the small pipe diameter, the 50 mm wide colour bands shall be applied on the external surface only, at a distance of 450 mm from the pipe ends.	Confirmed
40	Cl. No. 7.0 of MR, Doc. No. Doc. 18969-IGL-PL-MR-001 Cl. No. 4.6.4 of IGL-SS-PP-2043			7.0 DOCUMENTS & DATA REQUIREMENTS NOTES The documents are fully part of the supply which shall be complete only if and when the documents complying fully with the material requisition requirements are received by the engineer. 1) Durations in column B (Required date) are weeks after Purchase Order date. Durations in column C (Required date) are weeks after document approval. Due date of each document may be proposed. 2) Latest submittal time for: • Test procedure : 2 weeks before test • Test report : 2 weeks after test 3) Final technical file shall be supplied in hard copy as indicated, and in electronic format (PDF Acrobat files) on two (2) CD-ROMs 4.6.4 Submission of Soft Copies	Due to environment concern, bidder clarifies that the One hard copy and two electronic file (in form of Pen Drive) will be submitted as part of final dossier.	Confirmed
41	Cl. No. 2 of HFW spec, Doc. No. IGL – SS – PP – 2008			2. NORMATIVE REFERENCES The latest edition (edition enforce at the time of issue of enquiry) of following additional references are included in this specification: ASTM ASTM E112: Standard Test Methods for Determining Average Grain size	Bidder clarifies that the latest version is ASTM E112 – 13 (Reapproved 2021) and ASTM A370-26 same shall be followed during enquiry evaluation.	ASTM E112 (2025) to be used
42	Table 5 of HFW spec, Doc. No. IGL – SS – PP – 2008			Table 5 — Chemical composition for pipe Element% max C0.16 Mn1.40	Bidder requests that Table 5 footnote b) of API 5L 46th Edition to be permitted for Carbon – Manganese relation i.e. For each reduction of 0.01 % below the specified maximum for C, an increase of 0.05 % above the specified maximum for Mn is permissible, up to a maximum of 1.75 % for grades > L360 or X52 but < L485 or X70.	Tender conditions shall prevail

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43	Clause 9.2.3 of HFW spec, Doc. No. IGL – SS – PP – 2008			9.2.3. For heat analysis and product analysis, all the elements listed in Table 5 of this specification shall be analysed and reported, even if those are not purposely added but are present as residuals only. If alloying elements other than those specified in Table 5 of this specification are added to the steel, the limits of the additional components shall be agreed with the Purchaser.	Bidder clarifies that Heat analysis shall be performed at Steel Mill and same shall be reported in Raw Material Test Certificate, the RMTC shall be submitted to CLIENT/TPIA for review before commencement of production. However Product analysis shall be performed at Pipe mill as per API 5L Table 18 i.e. Two analyses per heat of steel (taken from separate product items).	Tender conditions shall prevail
44	Cl. No. 9.8.2, 9.8.2.1, 9.8.2.2 of HFW spec, Doc. No. IGL – SS – PP – 2008			9.8.2.2. The minimum average (set of three test pieces) shear fracture area shall be at least 85 % with one minimum value of 75%, based at a test temperature of 0 °C (32 OF) or at a lower test temperature as specified in the Purchase Order/ Material Requisition/Data sheets.	Bidder understand that CVN shear fracture area shall be performed on pipe Body, at 0°C temperature. The following acceptance criteria shall apply: Minimum CVN test temperature: -29°C: - for base metal and Weld. Minimum average absorbed energy (set of 3 specimens): 40 & 42J Minimum individual absorbed energy value: 30 & 32 J	Impact test shall be carried out at -29°C & observed energy values to be considered as per table 8 of HFW specification.
45	Clause 9.8.3 of HFW spec, Doc. No. IGL – SS – PP – 2008			9.8.1 Pipe weld and HAZ tests The average (set of three test pieces) absorbed energy value (Kv1) for each pipe weld and HAZ test shall be as specified in Table 8 of this specification, based upon full-size test pieces at a test temperature of 0°C (32°F) or at a lower test temperature as specified in the Purchase Order/ Material Requisition/Data sheets	Bidder clarifies that in HFW there is only Weld seam is formed and in accordance with API 5L Table 20, the CVN test to be performed in Base and Weld. Hence, Bidder confirms the CVN test to be performed on Base and Weld.	Bidder's understanding is correct. The CVN to be performed for the Weld and Base. For Base the test has to be for the HAZ only.
46	Clause 9.10.4 of HFW spec, Doc. No. IGL – SS – PP – 2008			9.10.4 Laminations Any lamination or inclusion either extending into the face or bevel of the pipe or present within 50 mm from pipe ends shall be classified as defect. Pipes that contain such defects shall be rejected or cut back until no lamination or inclusion is present at the pipe ends and shall be treated in accordance with clause C.3 b) or c) of API Spec 5L.	Bidder understand that Lamination or inclusion acceptance criteria shall be in accordance with the API 5L 46th Edition. Pipe which exceed the acceptance criteria of lamination or inclusion shall be rejected or cut back until no lamination or inclusion is present at the pipe ends and shall be treated in accordance with clause C.3 b) or C.3 c) of API Specification SL.	Bidder's understanding is correct
47	Cl. No. 9.11.3.4 of HFW spec, Doc. No. IGL – SS – PP – 2008			9.11.3.4 The tolerances for straightness shall be as follows: b) The local deviation from straight line, as depicted in Figure 2 of API Spec 5L, in 1.0 m (3.0 ft) portion at each pipe end shall be ≤ 3.0 mm (0.120 in),	Bidder request to allow the local deviation from straight line in 1.5 m portion at each pipe end shall be < 3.0 mm to meet the API 5L compliance.	Tender conditions shall prevail
48	Table 10 of HFW spec, Doc. No. IGL – SS – PP – 2008			Table 10, Footnote c c. The diameter tolerance and out-of-roundness tolerance shall apply on inside diameter. The inside diameter, based on circumferential measurement, shall be calculated as ID = (D – 2t).	Bidder clarifies that there is typo error in formula to determine inside diameter, "D" is to be read as "OD" i.e. ID = (OD - 2t). Please confirm.	Bidder's understanding is correct
49	Table 18 of HFW spec, Doc. No. IGL – SS – PP – 2008			TYPE OF INSPECTION AT PIPE MILL FREQUENCY OF INSPECTION Product analysis b Two pipes per lot (maximum 100 pipes) per heat b Pipes selected shall be such that one at the beginning of the heat and one at the end of the heat are also represented.	Bidder clarify that it is practically not possible to select pipes from beginning of the heat and at the end of the heat. This also delays testing and release of pipes for dispatches. Hence bidder is maintaining the traceability basis of receiving of heats as first comes heat treat as beginning of the heat, same applicable for last heat. Bidder confirms the Product analysis shall be performed with frequency of Two pipes per lot (maximum 100 pipes) per heat.	Tender conditions shall prevail

INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical									
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply			
50	Table 18 of HFW spec, Doc. No. IGL – SS – PP – 2008			10.2 Specific Inspection 10.2.1 Inspection frequency 10.2.1.2 For PSL 2 pipe, the inspection frequency shall be as given in Table 18 of this specification. Table 18 of API Spec 5L stands replaced by Table 18 of this specification. <table><tr><td>18</td><td>Metallographic testing (including Vicker's hardness test) of the longitudinal seam weld of pipe as defined in clause 10.2.5 of this specification</td><td>At least one finished pipe from each lot of 50 pipes per heat or at least once per operating shift (12 hrs max.) whichever is occurring more frequently and whenever changes of grade, diameter or wall thickness are made and whenever significant excursions from operating heat treatment conditions are encountered and at the beginning of the production of each combination of specified outside diameter and specified wall thickness.</td></tr></table>	18	Metallographic testing (including Vicker's hardness test) of the longitudinal seam weld of pipe as defined in clause 10.2.5 of this specification	At least one finished pipe from each lot of 50 pipes per heat or at least once per operating shift (12 hrs max.) whichever is occurring more frequently and whenever changes of grade, diameter or wall thickness are made and whenever significant excursions from operating heat treatment conditions are encountered and at the beginning of the production of each combination of specified outside diameter and specified wall thickness.	Bidder understands that the test frequency for Metallographic testing & Vicker's hardness test as below: For Metallographic testing- At least one finished pipe from each lot of 50 pipes per heat or at least once per operating shift (12 hrs max.) whichever is occurring more frequently and whenever changes of grade, diameter or wall thickness are made and whenever significant excursions from operating heat treatment conditions are encountered and at the beginning of the production of each combination of specified outside diameter and specified wall thickness. For Vicker's hardness test- At least one finished pipe from each lot of 50 pipes per heat and whenever changes of grade, diameter or wall thickness are made and whenever significant excursions from operating heat treatment conditions are encountered and at the beginning of the production of each combination of specified outside diameter and specified wall thickness.	Tender conditions shall prevail
18	Metallographic testing (including Vicker's hardness test) of the longitudinal seam weld of pipe as defined in clause 10.2.5 of this specification	At least one finished pipe from each lot of 50 pipes per heat or at least once per operating shift (12 hrs max.) whichever is occurring more frequently and whenever changes of grade, diameter or wall thickness are made and whenever significant excursions from operating heat treatment conditions are encountered and at the beginning of the production of each combination of specified outside diameter and specified wall thickness.							
51	Clause 10.2.8.7 of HFW spec, Doc. No. IGL – SS – PP – 2008			10.2.8.7 The measuring equipment requiring calibration or verification under the provisions of API Spec 5L shall be calibrated with manual instruments at least once per operating shift (12 hours maximum). Such calibration records shall be furnished to Purchaser's Representative on request	Bidder clarifies that calibrated measuring equipment (calibration done by NABL approved Laboratory) shall be used for dimensional measurement, calibration certificates can be reviewed. Only NDT machines & Hydro test pressure gauge which require calibration as per API 5L & client specification shall be calibrated. We shall follow the API (46th edition) requirements regarding to comply the calibration & verification frequency of instruments & equipment's.	Tender conditions shall prevail			
52	Clause No. 11.2.8 of HFW spec, Doc. No. IGL – SS – PP – 2008			11.2.8 A colour 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. The colour code band shall be 50 mm wide and shall be marked at a distance of 150 mm from the pipe ends.	Since the pipes are intent for External coating and the colour code at inside surface is worthless to identify the same diameter but different wall thickness, bidder request to allow the colour code band on external surface only after coating.	Tender conditions shall prevail			
53	Cl. No. 12, 12.1.1 of HFW spec, Doc. No. IGL – SS – PP – 2008			12 COATINGS AND THREAD PROTECTORS 12.1.1 Unless otherwise specified in the Purchase Order, the pipes shall be delivered bare, free of any trace of oil, stain, grease and paint. Varnish coating shall be applied on the marking area. Bevels shall be free of any coating.	Bidder please confirm the coating requirement. For the Bare pipes, Bidder would like to apply single coat lacquer type varnish or Black varnish on external surface. Please confirm.	All Pipes are 3LPE Coated			
54	Clause No. 15(NEW) of HFW spec, Doc. No. IGL – SS – PP – 2008			15 PRODUCTION REPORT (New)s	Due to environmental concern bidder request to permit one hard copy and two electronic copies on CD ROMs/DVD ROMs/Pen drive of MRB documents.	Confirmed			
55	INSPECTION AND TEST PLAN FOR HFW LINE PIPES, Doc. No. IGL – ITP – PP – 2016 STANDARD SPECIFICATION FOR DOCUMENTATION REQUIREMENTS FROM SUPPLIERS, Doc. No. IGL-SS-PP-2043			INSPECTION AND TEST PLAN FOR ELECTRIC WELDED LINE PIPES (ONSHORE) QUANTUM OF CHECK: 100% SCOPE OF INSPECTION 4.5.6 Quality Assurance Plan/Inspection and Test Plan	Bidder clarifies that the received ITP (HFW) shall be retained for information, however the project specific ITP shall be submitted after award of contract. The Inspection Innervation of TPI/Client shall be discussed and mutually agreed after award of contract.	Bidder's understanding is correct.			
56	INSPECTION AND TEST PLAN FOR RAW MATERIAL (HR COIL/PLATES), Doc. No. IGL-ITP-PP-2026			1.0 SCOPE: This Inspection and Test Plan covers the minimum inspection & testing requirements for Rolling process for manufacturing of Hot Rolled Coil & Plates as part of raw material quality requirements for line pipes	Opted to steel mill requirement; we will share the raw material ITP to steel mill. In case, opted steel mill will have any clarification/deviation, will notice to the company before order placement.	Tender conditions shall prevail			

INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
57	INSPECTION AND TEST PLAN FOR RAW MATERIAL (HR COIL/PLATES), Doc. No. IGL-ITP-PP-2026 Cl. No. 6.0 of IGL-SS-PP-2044			NOTES (As applicable): 9.The Line Pipe Manufacturer shall be completely responsible for the design, materials, testing, inspection, preparation for shipment, loading of the supplied item Strictly in accordance with the Material Requisition and all attachments thereto. 6.0 AUDITS IDDER shall plan and carry out the QMS audit for the job. Quality audit programme shall cover design, procurement, construction management and commissioning as applicable including activities carried out by sub vendors and sub-contractors. This shall be additional to the certification body surveillance audits carried out under BIDDER'S own ISO 9001 certification scheme.	Bidder clarifies that Design is not in our scope. Our scope of work is manufacturing, testing, inspection of ERW pipe in accordance with API 5L 46th edition & Pipe specification	Bidder's understanding is correct.
58	MATERIAL REQUISITION, Doc. No. 18969-IGL-PL-MR-001 HFW technical spec, Doc. No. Doc. No. IGL – SS – PP – 2008			Destructive testing	Bidder clarify that the given diameter and wall thickness is very less, so may be full size specimen is not extracted. In such cases, Bidder understands that sub-size specimens shall be used in accordance with the applicable provisions of API 5L and ASTM A370, including the relevant acceptance criteria for sub-size specimens.	Tender conditions shall prevail
59	API 5L 46th Edition, Synopsis, Client Specification	7.1.b, 6.1, H.4.1.1, or J.4.1.1, whichever is applicable),	Pipe Sizes, steel grade & (PSL 1 or 2),	API 5L X60, X52,Gr B PSL 2	Mega Pipes clarify that pipe sizes feasibility mention above. Mega Pipes clarifies that the High Frequency Welded (HFW) Pipe manufactured in accordance with API 5L 46th edition grade L415M, L360M and L245M PSL 2 will be supplied.	Tender condition shall prevail
60	API 5L 46th Edition	Cl. 7.1 h	Confirmation of applicability of individual annexes.		Mega Pipes understand that in this order Annex A, Annex B, Annex C, Annex E and Annex O shall be applicable. No other Annex of the specification shall be applicable. Please Confirm.	Tender condition shall prevail
61	IGL – SS – PP – 2008	Material Requisition Cl. 15 and 16; IGL – SS – PP – 2008 Cl.9.12.5.7	Bevel Protectors and End Caps	Both pipe ends of each pipe shall be provided with metallic or high impact plastic bevel protectors/end cap as per Manufacturer's standard. Bevel protectors/end shall be of a design such that they can be re-used by coating applicator for providing on externally anticorrosion coated pipes subsequent to coating of line pipe. The details of the bevel protector/end caps shall be furnished for approval prior to start of the production. Plastic push fit types end caps shall be installed on all small diameter pipe ends.	Mega pipes to use Metallic bevel Protectors and End Caps on both ends of pipe. Please confirm.	Confirmed
62	IGL – SS – PP – 2008	Cl. 15	Production Report	The Manufacturer shall provide one electronic copy and six hard copies of production report in English language indicating at least the following for each pipe. International system of units (SI) shall be adopted.	Mega pipes clarifies that shall provide one electronic copy and one hard copies of production report.	Confirmed
63				TPIA	Mega Pipes understands that appointment of TPIA, if any is in the scope of client.	TPIA Appointment is in scope of Bidder
64	IGL-SS-PP-2003	10.2	Temperature monitoring of extrusion	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 of twice every shift	Bidder intent to clarify that the calibration of temperature measuring device shall be carried out by verification method with another temperature measuring device in each shift. Please confirm.	Tender conditions shall prevail
65	IGL-SS-PP-2003	8.5.2.15, 8.5.2.16 8.5.2.16.1 8.5.2.16.2	Specific Electrical Coating Resistance: UV Resistance and Thermal Ageing: UV Ageing Test:	Owner may decide to get the test conducted for PE top coat material 3LPE coating applied during PQT and get tested for the above long-term tests at the cost of the coating applicator at an accredited independent laboratory as per above requirements.	We shall submit the raw material test certificate. The test certificate (not older than 3 years) submitted by the PE manufacturer. If during the PQT clients says the testing require at out side lab so pl. Consider the cost approximately 3 lacs.	Tender conditions shall prevail
66	Cl. no. 11.0 of Doc. no.: 18969-IGL-PL-MR-001			Bidder shall inspect of all coated line pipes in presence of Owner representative while handing over of pipes. Holiday inspection for visually damaged, coating damaged pipes etc. shall be carried out by bidder while handing over of pipes. Repair of damaged pipes, beveled end defects and damaged coating (including supply of coating materials for repair) noticed at the time of handing over of coated pipes	Bidder intent to clarify that visually inspection of all coated pipes at presence of owner representative while handing over of pipe. In case any pipes showing coating damaged due to handling & transportation shall be considered for repair and that will be carried out within acceptance limit of 3LPE coating specification & approved procedure. After repaired of pipes (if any) will be checked by holiday detector of repaired pipes.	Tender Conditions shall prevail

INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
67	Cl. no. 15 & 16 of Doc. no.: 18969-IGL-PL-MR-001			Both pipe ends of each pipe shall be provided with metallic or high impact plastic bevel protectors/end cap as per Manufacturer's standard. Bevel protectors/end shall be of a design such that they can be re-used by coating applicator for providing on externally anticorrosion coated pipes subsequent to coating of line pipe. The details of the bevel protector/end caps shall be furnished for approval prior to start of the production. Plastic push fit types end caps shall be installed on all small diameter pipe ends.	Bidder understood that up to 8.625-inch dia. Pipe plastic push fit type end caps shall be installed. & for 12-inch dia. pipe metallic or high impact plastic bevel protectors/end cap as per Manufacturer's standard.	Small diameter pipes (6" & 4" dia) shall be supplied with plastic end caps. 12" & 8" Dia pipes shall be supplied with metallic bevel end protectors.
68	Cl. no. 22 of Doc. no.: 18969-IGL-PL-MR-001			Color bands of 50 mm width to be placed at both the ends, inside of Bare Pipes at a distance of 150 mm from the pipe ends and outside of 3LPE Coated Pipes at a distance of 450 mm from the pipe ends.	Please provide the colour code for color bands at outside of 3LPE Coated Pipes; if any.	Tender Conditions shall prevail
69	CS. Cl. no. 3.7, 7.2.6 & 10.5.1 of Doc. no.: IGL-SS-PP-2003			The conductivity of DI (De-Ionized) water (if used) shall be less than 5 micro-Siemens/cm and rinse water pressure shall be minimum 1500 psi. High pressure water rinse (>1500 psi) after phosphoric acid wash shall be used to remove any trace of treatment residue. A minimum of 1 liter of de-ionized water per square meter of pipe surface area shall be used. Table 11 — Requirements for Inspection of Chemical Pre-treatment (If specified): Pressure of water rinse after acid wash Min. 1500 psi (*) (*A minimum of 1 liter of DI water per m2 shall be used to be established during PQT)	Bidder intent to clarify that as per Epoxy powder manufacturer the required Rinse water pressure for surfaces preparation should be Minimum 1000 PSI. Therefore, we will maintain rinse water pressure Minimum 1000 PSI. Please confirm.	Tender conditions shall prevail
70	CS. Cl. no. 7.1.12 7.2 & 10.5.1 of Doc. no.: IGL-SS-PP-2003			Any pipe having salt contamination exceeding 2µg/cm ² shall be de-ionized water washed and then re-checked for salt contamination. In case, salt level is still greater than 2 µg/cm ² , chemical pre-treatment of steel pipes after abrasive blasting using phosphoric acid wash, followed by high pressure water wash (>1500 psi) shall be carried out as per clause 7.2. 7.2 Chemical pre-treatment with phosphoric acid solution (if specified): All pipes shall be provided chemical pre-treatment with phosphoric acid solution having concentration of 10% (+2%). Oakite 31 / 33 or equivalent shall be used to remove all soluble salts and other soluble contaminant. 10.3 Chemical Pre-treatment with Phosphoric Acid Solution and / or Chromate Treatment (If specified by the Owner): Depending on requirements, each pipe shall be subjected to Chemical Pre-treatment with Phosphoric Acid Solution followed by high pressure water rinse and / or Chromate Treatment in accordance with Clauses 7.2 & 7.3 of this specification. Treated pipe surface shall be inspected and tested in accordance with Table 11 in order to ensure characteristics of pipe surface prior to induction heating. Table 11 — Requirements for Inspection of Chemical Pre-treatment (If specified):	Bidder request to confirm chemical pretreatment with phosphoric acid wash followed by de-ionized water wash is applicable when salt contamination is exceeding 2µg/cm ² . Please also confirm the chromate treatment before FBE application is required or not. Please confirm both.	Bidder's understanding is correct
71	CS. Cl. no. 7.1.12 of Doc. no.: IGL-SS-PP-2003			After final abrasive blast cleaning, all pipes shall be tested for presence of soluble salts. One test shall be carried out on each pipe. The acceptance criteria shall be 20 mg/m ² or 2 g/cm ² (max).	Bidder propose that during PQT only both end for each pipe shall be tested for salt contaminated & during regular production each pipe one end shall be tested for salt contamination. Please confirm.	Tender conditions shall prevail
72	CS. Cl. no. 4.3.1 of Doc. no.: IGL-SS-PP-2003			In addition to Manufacturer's certificate, the Applicator/ Contractor shall draw two samples per batch of epoxy, adhesive and polyethylene in the presence of Owner Representative and test for the following properties at the coating laboratory prior to its use in order to establish compliance with the manufacturer's test certificates. Epoxy Powder: • Density • Gel Time • Particle size • Moisture content • Thermal characteristics (Tg1, Tg2 & ΔH)	Bidder intent to clarify that all specified test shall be carried out except of Particle size. The epoxy raw material manufacturer shall perform the Particle size test and provide test certificates & same certificates will submitted to the client/ TPIA for review & acceptance. Please confirm.	Tender conditions shall prevail
73	CS. Cl. no. 4.4 of Doc. no.: IGL-SS-PP-2003			All materials to be used shall be supplied in sealed, damage free containers and shall be suitably marked with the following minimum information: • Name of the Manufacturer • Grade or Trade name • Health, safety and environmental Instructions • Type of Material • Batch Number • Place of Manufacture • Manufacturing Date / Shelf Life/Expiry Date (if applicable) • Quantity.	Bidder intent to clarify that all required markings are printed on each batch of polyethylene and adhesive material except manufacturing date, shelf life/expiry date and storage condition are mentioned on product data sheet and test certificate. Epoxy powder complies with all specified required printed on each batch of bag.	Confirmed

INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
74	CS. Cl. no. 5.4.4 of Doc. no.: IGL-SS-PP-2003			Table 5 - On Cured Epoxy (FBE) film of 3LPE Coating: 6. Hot Water Adhesion 28 days at 75°C+/-3°C	Bidder intent to clarify that Hot Water Adhesion test for 28 days at 75°C+/-3°C shall be conducted in epoxy powder manufacturer laboratory and they will provides test certificates & the same certificates will be submitted to the client/ TPIA for review & Acceptance. Please confirm.	Tender conditions shall prevail
75	CS. Cl. no. 5.4.4, 8.5.1.9 & 10.5.1 of Doc. no.: IGL-SS-PP-2003			Table 5 - On Cured Epoxy (FBE) film of 3LPE Coating: 10. Impact Resistance at 0 °C >1.5 J Impact Test: 1.5 J Impact test at 00C shall be conducted on ring specimen obtained from epoxy coated pipe section of two pipes as per clause A.14 of ISO 21809-2. There shall be no holiday on impact area (Refer Clause 5.4.4 and Table 5). Table 12 — Requirements for Inspection of Plant Applied Coating (PQT & Production) 2.15. Impact Resistance at 0 °C >1.5 J	Bidder intent to clarify that Impact Resistance at 0 °C for >1.5 J shall be conducted in epoxy powder manufacturer laboratory and they provide test certificates & the same certificates will be submitted to the client/ TPIA for review & Acceptance. Please confirm.	Tender conditions shall prevail
76	CS. Cl. no. 5.4.4 of Doc. no.: IGL-SS-PP-2003			Table 6 - On Extruded Adhesive film of 3LPE coating: 2. Strain at Break at 23°C ± 3°C ≥600 3. Stress at Yield at 23°C ± 3°C ≥8 Mpa	Bidder intent to clarify that Strain and stress test shall be conducted by Adhesive material manufacturer, and they will provide the test certificates & the same certificates will be submitted to the client/ TPIA for review & Acceptance. Please confirm.	Tender conditions shall prevail
77	CS. Cl. no. 5.4.4 & 8.5.2.4 & 10.5.1 of Doc. no.: IGL-SS-PP-2003			Table 7 - On HDPE Top Coat layer and 3LPE coating: 2. Peel Strength of 3LPE Coating at 23°C +/-3°C; ≥18 N/mm at 80°C+/-3°C; ≥ 5 N/mm Peel (Adhesion) Strength: Five test pipes shall be selected for Peel strength tests as per Annex C (C2) of ISO21809 -1. On each of the selected pipes, three peel tests shall be performed for each specified temperature (23±3°C & 80±3°C), one at each end and one in the middle of the pipe. Table 12 — Requirements for Inspection of Plant Applied Coating (PQT & Production) 4.6. Peel Strength of 3LPE Coating at 23°C +/-3°C; ≥18 N/mm at 80°C+/-3°C; ≥ 5 N/mm 5 pipes x 3 tests (@ both ends & middle)	Bidder intent to clarify that peel test shall be carried out by spring loaded test assembly by manual peel tester machine i.e. Annex C (C1) of ISO 21809-1. Please confirm. Bidder also want to clarify that middle peel test shall be carried out at maximum feasible distance from the pipe end due to constraint pipe size and safety point of view (during PQT the distance shall be confirmed in presence of Client /TPIA). Please confirm.	1) Tender conditions shall prevail 2) Confirmed
78	CS. Cl. no. 8.4 of Doc. no.: IGL-SS-PP-2003			Patch Repair •Peel Test: ≥ 2.5 N/mm @23±3°C; ≥ 0.2 N/mm @80±3°C; No separation of epoxy layer	Bidder proposed that Peel test on patch repair should be waived off.	Tender conditions shall prevail
79	CS. Cl. no. 8.4 of Doc. no.: IGL-SS-PP-2003			Heat- shrinkable Sleeve (HSS) Repair (System 14-B) of ISO 21809-3 Peel Test (Table 17 of ISO 21809-3): ≥ 5 N/mm @23±3°C; ≥ 0.3 N/mm @80±3°C; No separation of epoxy layer from the steel surface.	Bidder proposed that Peel test on Heat-shrinkable Sleeve (HSS) Repair shall be carried out as per Raw material manufacturer's recommendation.	Tender conditions shall prevail
80	CS. Cl. no. 12.5 of Doc. no.: IGL-SS-PP-2003			Bare/coated pipes at all times shall be stacked completely clear from the ground, at least 500 mm, so that the bottom row of pipes remains free from any surface water.	Bidder proposed that we shall maintain minimum 300 mm clearance between pipes and ground and the raw shall be made as in slope which will drain out of rain water & prevented of rain water collect inside the pipes.	Tender conditions shall prevail



INDRAPRASTHA GAS LIMITED
IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical																						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply																
81	CS. Cl. no. 15 of Doc. no.: IGL-SS-PP-2003			INSPECTION, MEASURING AND TEST EQUIPMENT: <table><tr><th>Device Name</th><th>Clause No.</th><th>Frequency of in house Verification</th><th>Tolerance</th></tr><tr><td>Digital Contact Thermometer</td><td>7.4.1.5</td><td>Twice / shift</td><td>Standard value ± 2 %</td></tr><tr><td>Optical Pyrometer</td><td>7.4.1.5</td><td>Twice / shift</td><td>Standard value ± 2 %</td></tr><tr><td>Holiday Detector</td><td>8.6.2.3</td><td>Every 4 hours</td><td>Standard value ± 2 %</td></tr></table>	Device Name	Clause No.	Frequency of in house Verification	Tolerance	Digital Contact Thermometer	7.4.1.5	Twice / shift	Standard value ± 2 %	Optical Pyrometer	7.4.1.5	Twice / shift	Standard value ± 2 %	Holiday Detector	8.6.2.3	Every 4 hours	Standard value ± 2 %	Bidder request that the required in-house verification of inspection, measuring and test equipment is narrow tolerance. Therefore, we shall maintain within the acceptance Criteria of calibration certificates which have calibrated from independent laboratory (specialized calibration agency) i.e. ± 3% for digital contact thermometer & optical pyrometer and ± 5% for holiday detector. Please confirm the same.	Tender conditions shall prevail
Device Name	Clause No.	Frequency of in house Verification	Tolerance																			
Digital Contact Thermometer	7.4.1.5	Twice / shift	Standard value ± 2 %																			
Optical Pyrometer	7.4.1.5	Twice / shift	Standard value ± 2 %																			
Holiday Detector	8.6.2.3	Every 4 hours	Standard value ± 2 %																			
82	CS. Cl. no. 8.5.2.15 of Doc. no.: IGL-SS-PP-2003			Specific Electrical Coating Resistance: The long term Specific Electrical Coating Resistance test of 3LPE coated pipes section shall be conducted for 100 days @ 23°C in accordance with Annex J of DIN 30670. Tested value shall be ≥108 Ωm² (refer Clause 5.4.4 and Table 7). Owner may decide to get the test conducted for 3LPE coating applied during PQT and get tested for the above long-term test at the cost of the coating applicator at an accredited independent laboratory as per above requirement.	Bidder intent to clarify that we will submit reputed laboratory test reports of each grade of PE which has provided by polyethylene material manufacturer for review and acceptance Please confirm.	Tender conditions shall prevail																
83	CS. Cl. no. 8.5.2.16 of Doc. no.: IGL-SS-PP-2003			UV Resistance and Thermal Ageing: Owner may decide to get the test conducted for PE top coat material 3LPE coating applied during PQT and get tested for the above long-term tests at the cost of the coating applicator at an accredited independent laboratory as per above requirements.	Bidder intent to clarify that we will submit reputed lab test reports of each grade of PE which has provided by polyethylene material manufacturer for review and acceptance. Please confirm.	Tender conditions shall prevail																
84	Cl. No. 12.0 MR No. 18969-IGL-PL-MR-001			Pipe Internal Diameter inspection by Pull through (95% of ID) shall be carried out by bidder during handling over pipes to owner.	We confirm that OD and internal pipe diameter (OD-2WT) shall be maintained as per applicable client specification and API 5L 46th Edition, hence pipe internal diameter inspection (95% of ID) may be waived off. Please confirm.	Tender conditions shall prevail																
85	Cl. No. 2 of client spec. Doc. No. IGL-SS-PP-2008			NORMATIVE REFERENCES ASTM E112-12: Standard Test Methods for Determining Average Grain size	Bidder understands that the latest year edition of ASTM E112 is of 2025. We confirm to follow this latest edition, at the time of execution	Confirmed																
86	Cl. No. 8.1 of client spec. Doc. No. IGL-SS-PP-2008			Abutting edges of the coil shall be milled or machined immediately before welding. The width of the coil shall be	We carry out slitting of each coil in such a way that the slit edges are suitable for direct feeding into the pipe mill for pipe manufacturing. Therefore, these slits do not require any further edge preparation. Please confirm.	Tender conditions shall prevail																
87	Cl. No. 9.3 of client spec. Doc. No. IGL-SS-PP-2008			Tensile Properties The actual yield strength shall be as close as possible to the specified minimum yield strength (SMYS) but in no case it shall exceed the limits specified here under. <table><tr><th>API Spec 5L Grade</th><th>Permissible in excess of SMYS, MPa (psi) Up</th></tr><tr><td>to and including X46M</td><td>131 (19,000)</td></tr><tr><td>X52M to X60M</td><td>125 (18,000)</td></tr><tr><td>X65M to X70M</td><td>120 (17,400)</td></tr></table>	API Spec 5L Grade	Permissible in excess of SMYS, MPa (psi) Up	to and including X46M	131 (19,000)	X52M to X60M	125 (18,000)	X65M to X70M	120 (17,400)	Putting additional restrictions over the API Spec. makes it difficult to source the steel. So, the Tensile properties requirements may be accepted as per API 5L 46th latest Edition, i.e. <table><tr><th>For Grade</th><th>Yield Strength in Mpa</th></tr><tr><td>XB M</td><td>245-450</td></tr><tr><td>X52M</td><td>360-530</td></tr><tr><td>X60M</td><td>415-565</td></tr></table>	For Grade	Yield Strength in Mpa	XB M	245-450	X52M	360-530	X60M	415-565	Tender conditions shall prevail
API Spec 5L Grade	Permissible in excess of SMYS, MPa (psi) Up																					
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INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical																																			
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply																													
88	Cl. No. 9.8.2 of client spec. Doc. No. IGL-SS-PP-2008			Pipe body tests – The average (set of three test pieces) absorbed energy value (KvT) for each pipe body test shall be as specified in Table 8 of this specification, based upon full sized test pieces at a test temperature of 0°C(32°F) or at a lower test temperature as specified in the Purchase Order/ Material Requisition/Data sheets. Pipe weld and HAZ tests- The average (set of three test pieces) absorbed energy value (Kv1) for each pipe weld and HAZ test shall be as specified in Table 8 of this specification, based upon full-size test pieces at a test temperature of 0°C (32°F) or at a lower test temperature as specified in the Purchase Order/ Material Requisition/Data sheets	Bidder Clarifies that CVN absorbed energy value for Pipe body, Weld and HAZ of PSL2 Pipe is considered as per Table 8 of Client Spec. However, CVN requirements specified in Annex G of Client specification is not considered. Due to smaller pipe sizes & less wall thickness (114.3 mm OD X 6.40mm WT. & 168.3 mm OD X 6.40mm WT.) constraint, the extraction of samples in transverse orientation for Weld, HAZ and base metal is not feasible. Considering the same table 22 of API 5L 46th edition does not recommends the impact test for this size and thickness combination. However, impact test shall be carried out for the base metal by extracting the samples at 90° in longitudinal orientation as per your technical specification. Other Pipe sizes are feasible as per Client Spec. Kindly Confirm.	1 Confirmed 2 Tender conditions shall prevail																													
89	Cl. No. 9.11.3.1 of client spec. Doc. No. IGL-SS-PP-2008			Table 10 of API Spec 5L stands replaced by Table 10 of this specification. <table><tr><th colspan="5">Table 10 - Tolerances for diameter and out-of-roundness</th></tr><tr><th rowspan="2">Specified outside Diameter (D) mm (inch)</th><th colspan="2">Diameter tolerances ^a</th><th colspan="2">Out-of-roundness ^{e (new)}</th></tr><tr><th>Pipe except the end ^a</th><th>Pipe end ^{a,c}</th><th>Pipe except the end ^a</th><th>Pipe end ^{a,c}</th></tr><tr><td>D ≤168.3 (6 5/8)</td><td>± 0.0075 D</td><td>-0.4 mm to + 1.6mm</td><td>0.020D</td><td>0.015 D up to a maximum of2.0mm</td></tr><tr><td>168.3 (6 5/8) < D ≤ 273.1 (10 3/4)</td><td>± 0.0075 D</td><td>±0.005 D</td><td>0.020D</td><td>2.0mm</td></tr><tr><td>D > 273.1 (10 3/4)</td><td>± 0.0075 D up to a maximum of ±3.0mm</td><td>± 1.6mm</td><td>0.020D</td><td>3.0mm</td></tr></table> a The pipe end includes a length of 100 mm at each of the pipe extremities. b Deleted c The diameter tolerance and out-of-roundness tolerance shall apply on inside diameter. The inside diameter, based on circumferential measurement, shall be calculated as ID = (D – 2t). d For determining compliance to the diameter tolerances, the pipe diameter is defined as the circumference of the pipe in any circumferential plane divided by Pi (π). e (New) Out-of-roundness tolerances apply to maximum and minimum diameters as measured with bar gage, caliper, or device measuring actual, maximum and minimum diameters.	Table 10 - Tolerances for diameter and out-of-roundness					Specified outside Diameter (D) mm (inch)	Diameter tolerances ^a		Out-of-roundness ^{e (new)}		Pipe except the end ^a	Pipe end ^{a,c}	Pipe except the end ^a	Pipe end ^{a,c}	D ≤168.3 (6 5/8)	± 0.0075 D	-0.4 mm to + 1.6mm	0.020D	0.015 D up to a maximum of2.0mm	168.3 (6 5/8) < D ≤ 273.1 (10 3/4)	± 0.0075 D	±0.005 D	0.020D	2.0mm	D > 273.1 (10 3/4)	± 0.0075 D up to a maximum of ±3.0mm	± 1.6mm	0.020D	3.0mm	We understand that out-of-roundness tolerances shall be as per table 10 of API 5L 46th Edition. Kindly confirm.	Tender conditions shall prevail
Table 10 - Tolerances for diameter and out-of-roundness																																			
Specified outside Diameter (D) mm (inch)	Diameter tolerances ^a		Out-of-roundness ^{e (new)}																																
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168.3 (6 5/8) < D ≤ 273.1 (10 3/4)	± 0.0075 D	±0.005 D	0.020D	2.0mm																															
D > 273.1 (10 3/4)	± 0.0075 D up to a maximum of ±3.0mm	± 1.6mm	0.020D	3.0mm																															
90	Cl. No. 9.11.3.2 of client spec. Doc. No. IGL-SS-PP-2008			In addition to API requirements, the wall thickness of each pipe shall be checked along the circumference at both ends and at the mid location of pipe body at 12 0' clock, 3 0' clock, 6 0' clock and 9 0' clock positions. The tolerances for wall thickness shall be as given in Table 11 of this specification. Table 11 of API Spec 5L stands replaced by Table 11 of this specification. <table><tr><th colspan="2">Table 11- Tolerances for wall thickness</th></tr><tr><th>Wall thickness (mm)</th><th>Tolerances c, d (mm)</th></tr><tr><td>t < 15.0 mm</td><td>+0.20 t -0.0t</td></tr><tr><td>t ≥ 15.0 mm</td><td>+3.0 mm -0.0 mm</td></tr></table> a Deleted b Deleted c The + ve tolerance for wall thickness does not apply to the weld area. d See 9.13.2 of API Spec 5L and as modified herein for additional restrictions.	Table 11- Tolerances for wall thickness		Wall thickness (mm)	Tolerances c, d (mm)	t < 15.0 mm	+0.20 t -0.0t	t ≥ 15.0 mm	+3.0 mm -0.0 mm	We understand that the thickness tolerance shall be as per table 11 of API 5L 46th Edition i.e. (+) 10% and (-) 0%. Kindly confirm.	Tender conditions shall prevail																					
Table 11- Tolerances for wall thickness																																			
Wall thickness (mm)	Tolerances c, d (mm)																																		
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INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
91	Cl. No. 9.11.3.3 of client spec. Doc. No. IGL-SS-PP-2008 & Cl. No. 2.0 of MR Doc No. 18969-IGL-PL-MR-001			All pipes shall be supplied with length between 11.5 m and 12.5 m. However pipe with length between 10.0 m and 11.5 m can also be accepted for a maximum of 5% of the ordered quantity. The minimum average length of the entire ordered quantity in any case shall be 12.0 m. Overall length tolerance shall be (-) Zero and (+) One pipe length to complete the ordered quantity. Table	As per rules and regulations of Road and Transport department (RTO). The pipe length above 12.19m is not allowed. Hence it should be allowed to supply the pipes in the range between 11.20m to 12.19m with average length 12.00m and for sample pipes maximum 5% of ordered qty. shall be between 10.0m to 11.20m. That means, if the item is delivered to multiple locations, for some locations the negative tolerance is acceptable however, overall quantity tolerance shall be (-) Zero and (+) One pipe length. Kindly confirm.	Tender conditions shall prevail
92	Cl. No. 9.11.3.4 of client spec. Doc. No. IGL-SS-PP-2008			The tolerances for straightness shall be as follows: b) The local deviation from straight line, as depicted in Figure 2 of API Spec 5L, in 1.0 m (3.0 ft) portion at each pipe end shall be ≤ 3.0 mm (0.120 in),	This requirement is as per 45th edition of API 5L. It is modified in 46th edition of API 5L. "The local deviation from straight line in 1.5 meter portion at each pipe end shall be ≤ 3.2 mm."	Tender conditions shall prevail
93	Cl. No. 10.2.8.7 of client spec. Doc. No. IGL-SS-PP-2008			Dimensional testing The measuring equipment requiring calibration or verification under the provisions of API Spec 5L shall be calibrated with manual instruments at least once per operating shift (12 hours maximum). Such calibration records shall be furnished to Purchaser's Representative on request.	Bidder clarifies that calibrated measuring equipment as per API 5L shall be used for dimensional measurement, calibration certificates can be reviewed. Only NDT machines & Hydro test pressure gauge which require calibration as per API 5L & client specification shall be calibrated. Kindly confirm	Tender conditions shall prevail
94	Clause No. 15 of Client spec. Doc. No. IGL-SS-PP-2008			The Manufacturer shall provide one electronic copy and six hard copies of production report in English language indicating at least the following for each pipe. International system of units (SI) shall be adopted	Due to environmental concern bidder request to permit one hard copy and 6 electronic copy of the MRB.	Confirmed
95	ITP for Electric welded pipes & Steel			ITP for Electric welded pipes- Doc. No. IGL-ITP-PP-2016 ITP for Steel- Doc. No. IGL-ITP-PP-2026	Bidder has retained Inspection & Test Plan of Electric Welded Line Pipes and steel for information only, however project specific ITP shall be submitted upon receipt of award of Contract. Please Confirm.	Confirmed
96	Sr. No. 1.2 of IGL-ITP-PP-2016			WPS, PQR & WPQ.	MPS (Manufacturing Procedure Specification) & Welding Parameter Sheet shall be provided instead of WPS, PQR & WPQ as WPS/PQR is not applicable for HFW process. Kindly Confirm.	Tender conditions shall prevail
97	Sr. No. 3.2 of IGL-ITP-PP-2016			Raw material Inspection 1) Mechanical 2) Chemical 3) Impact	Bidder confirms to perform only tensile test (transverse) & Chemical analysis of received coil as incoming material inspection test with frequency of one/heat. No CVN test to be carried out at pipe mill on coils as incoming material inspection. However, The coil MTC received from steel mill shall be reviewed for the referenced tests. Also clarifies that CVN will be carried out on pipes as per frequency specified in tender specification for pipes. Please confirm.	Confirmed
98	Sr. No. 3.3 of IGL-ITP-PP-2016			Coil /Skelp UT as applicable 1) 25mm (Min) from edges 2) 20 % Min Coverage in Bal. part of Coil/ Plate	We shall do the pipe body ultrasonic testing with 100% coverage area as an alternative of Coil UT for lamination after hydrostatic test. Please confirm.	Tender conditions shall prevail
99	Sr. No. 4 of ITP for Steel- Doc. No. IGL-ITP-PP-2026			Ultrasonic of plates	Any Raw material supplier don't have the facility of ultrasonic testing, he gives the guarantee of RAW material as per ISO 10893-9. So, we shall do the pipe body ultrasonic testing with 100% coverage area as an alternative of Coil UT for lamination after hydrostatic test. Kindly confirm.	Tender conditions shall prevail

INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
100	IGL – SS – PP – 2008	CL. 9.3	Tensile Properties	The actual yield strength shall be as close as possible to the specified minimum yield strength (SMYS) but in no case it shall exceed the limits specified here under: API Specification 5L Grade Permissible in excess of SMYS, MPa (psi) Upto and including X46M 131 (19,000) X52M to X60M 125 (18,000) X65M to X70M 120 (17,400)	Bidder requested, kindly allow Tensile Properties as per API 5L 46th edition.	Tender conditions shall prevail
101	IGL – SS – PP – 2008	9.12.5.7	Bevel Protectors	Both pipe ends of each pipe shall be provided with metallic or high impact plastic bevel protectors as per Manufacturer's standard. Bevel protectors shall be of a design such that they can be re-used by coating applicator for providing on externally anti-corrosion coated pipes subsequent to coating of line pipe.	The bidder confirms that pipes of sizes 8" and below will be supplied with high-impact bevel protectors. For pipe sizes above 10", metallic bevel protectors will be provided in accordance with the manufacturer's standard practice. Kindly confirm	Small diameter pipes (6" & 4" dia) may be supplied with plastic end caps. 12" & 8" Dia pipes shall be supplied with metallic bevel end protectors.
102	IGL – SS – PP – 2008	CL. 11.2.8	Colour code band	A colour 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. The colour code band shall be 50 mm wide and shall be marked at a distance of 150 mm from the pipe ends.	Bidder understand that the specified requirement for colour code is not applicable as the project is having same thickness for different diameters. Accordingly not considered. Kindly confirm.	Tender conditions shall prevail
103	IGL – SS – PP – 2008	CL.9.11.3.3	Minimum Avg. Length	All pipes shall be supplied with length between 11.5 m and 12.5 m. However pipe with length between 10.0 m and 11.5 m can also be accepted for a maximum of 5% of the ordered quantity. The minimum average length of the entire ordered quantity in any case shall be 12.0 m	As per rules and regulations of Road and Transport department (RTO). The pipe length above 12.19 meter is not allowed. Hence it should be allowed to supply the pipes in the range between 11.0m to 12.19m with average length 11.50m and maximum 5% of ordered qty. shall be between 10.0m to 11.0m. Kindly confirm.	Tender conditions shall prevail
104	IGL – SS – PP – 2008	Annex E CL. E.5.2.3.2	Reference Standards for pipe body UT	Reference Standards for pipe body UT: Reference standards for the ultrasonic inspection of coil or pipe body (except the coil edges /pipe ends) shall contain continuous machined notch of following dimension: a) width, w : 8mm, with a tolerance +0.8/0.0 mm b) depth, d : 0.25<d<0.5 t, where 't' is the specified wall thickness Reference standards for the ultrasonic inspection of coil edges (area adjoining weld seam)/pipe ends shall have 6.4 mm diameter FBH of a depth 0.5t, where 't' is the specified wall thickness.	Body UT will carried out as per API 5L 46th Edition Annex E and ISO 10893-8 standards: a) width, w : 6mm, with a tolerance +0.6/0.0 mm b) depth, d : 0.25<d<0.5 t, where 't' is the specified wall thickness Bidder request, kindly wave off of FBH for reference standard. Kindly confirm.	Tender conditions shall prevail
105	IGL – SS – PP – 2008	---	RAW MATERIAL TEST CERTIFICATE	Raw Material(Coils) Test Certificate provided	Bidder requesting you Please allow the Raw material test certificate in accordance with EN 10204-3.1. Bidder will furnish the Raw material test certificate inclusive of all testing. Kindly confirm.	Tender conditions shall prevail
106	IGL-SS-PP-2003	4.3.1	Epoxy Powder	Particle size	TSL would like to inform that, mentioned test perform by material manufacturer and provide RMTC for test result, TSL will submit same for Review and acceptance.	Tender conditions shall prevail
107	IGL-SS-PP-2003	5.4.4	Table 5 - On Cured Epoxy (FBE) film of 3LPE Coating	6.Hot Water Adhesion 28 days at 75°C+/-3°C	TSL would like to inform that , This is long duration test and it is conduct by raw material manufacturer, however it is not possible to provide test result at the time of material shipment. Hence, we request to you test result shall be Once per each grade of epoxy.	Tender conditions shall prevail
108	IGL-SS-PP-2003	5.4.4	Table 5 - On Cured Epoxy (FBE) film of 3LPE Coating	10. Impact Resistance at 0 °C	TSL would like to inform that, mentioned test perform by material manufacturer and provide RMTC for test result, TSL will submit same for Review and acceptance.	Tender conditions shall prevail
109	IGL-SS-PP-2003	5.4.4	Table 6 - On Extruded Adhesive film of 3LPE coating	2. Strain at Break at 23°C ± 3°C	TSL would like to inform that, mentioned test perform by material manufacturer and provide RMTC for test result, TSL will submit same for Review and acceptance.	Tender conditions shall prevail
110	IGL-SS-PP-2003	5.4.4	Table 6 - On Extruded Adhesive film of 3LPE coating	3. Stress at Yield at 23°C ± 3°C	TSL would like to inform that, mentioned test perform by material manufacturer and provide RMTC for test result, TSL will submit same for Review and acceptance.	Tender conditions shall prevail

INDRAPRASTHA GAS LIMITED

IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
111	IGL-SS-PP-2003	5.4.4	Table 7 - On HDPE Top Coat layer and 3LPE coating	10. Specific Electrical Coating Resistance (23 °C ± 2 °C)	TSL would like to inform that, This is long duration test and it will be performed by the material manufacturer and report shall be submitted for review and acceptance.	Tender conditions shall prevail
112	IGL-SS-PP-2003	7.1.14	----	Suitable plugs shall be provided at both pipe ends to prevent entry of any shot/grit into the pipe during blast cleaning operations. These plugs shall be removed after blast cleaning.	Putting and removal of plugs is safety hazards. Hence, TSL have ensure that 1. There No gap between two pipes by maintaining the blasting conveyor line speed for prevent the entry of shot and grits. 2. Additionally air blowing system is already exist for individual pipe on blasting table.	Tender conditions shall prevail
113	IGL-SS-PP-2003	7.2.9	Salt test	The salt tests shall be carried out after de-ionized water rinse at one end of each pipe at the blasting inspection bed.	TSL would like to inform that, All pipe shall be provided chemical pretreatment with phosphoric acid for removal of salt contamination from the pipe surface. Hence, We propose that test shall be conduct in 1 in 10 pipes.	Tender conditions shall prevail
114	IGL-SS-PP-2003	7.4.2.6	Air pressure in the epoxy spray guns	Air pressure in the epoxy spray guns shall be controlled, continuously monitored and recorded by using suitable instruments.	TSL Would propose that continuously monitoring facility is available and recording a temperature in logbook at regular interval.	Tender conditions shall prevail
115	IGL-SS-PP-2003	7.4.1	Pipe Heating	Temperature measuring & monitoring equipment shall be calibrated twice every shift and/or as per Owner Representative's instruction.	Once in year we are doing the calibration of all Temperature measuring instruments by external calibration agency and calibration certificate shall be provided to you for review and acceptance. PI confirm.	Confirmed
116	IGL-SS-PP-2003	7.4.1	--	Suitable arrangement shall be made to protect the bevel ends from getting damaged during the coating operation.	Putting and removal of coupling is safety hazards. However by during the adequate alignment of the line and speed optimization no bevel getting damaged. If any bevel got damaged we are during buffing on VDI table.	Tender Conditions shall prevail
117	IGL-SS-PP-2003	7.4.3	Extrusion temperature	The extrusion temperature of polyethylene film 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.	TSL Would propose that continuously monitoring facility is available and recording a temperature in logbook at regular interval. The instruments use for PE and adhesive shall be calibrate in specialized equipment outside laboratory so we proposed review of outside lab calibration certificate.	Tender Conditions shall prevail
118	IGL-SS-PP-2003	10.5	Table 10 — Requirements for inspection of surface preparation of pipe	4. Size, shape and properties of virgin abrasive	TSL would like to inform that, mentioned details perform by material manufacturer and provide RMTC for test results, TSL will submit same for Review and acceptance.	Tender Conditions shall prevail
119	IGL-SS-PP-2003	15	INSPECTION, MEASURING AND TEST EQUIPMENT:	Optical Pyrometer	Once in year we are doing the calibration of all Temperature measuring instruments by external calibration agency and calibration certificate shall be provided to you for review and acceptance. PI confirm.	Tender Conditions shall prevail
120	IGL-SS-PP-2003	-	-	DM water wash & Phosphoric acid	As a part of our plant process, We would like to perform both DI water wash & Phosphoric acid wash for better quality of pipes after blasting to eliminate Salt and other chemical Contaminations might remain after blast cleaning activity. Residual salt particles may enhance the rate of corrosion over the substrate. Please Allow.	Tender Conditions shall prevail
121	6.0 Note 14 9.12.5 9.12.5.6			For butt weld end, bevel shall be in accordance with API specification 5L. Plain ends During removal of inside burrs at the pipe ends, care shall be taken not to remove excess metal and not to form an inside cavity on bevel. Removal of excess metal beyond the minimum wall thickness as indicated in clause 9.11.3.2 of this specification shall be a cause for re-bevelling. In case root face of bevel is less than that specified, the pipe ends shall be re-bevelled and rectification by filing or grinding shall not be done.	As per current project MR, the bevel shall be as per API 5L, accordingly, bevel end preparation has been considered as per CL 9.12.5.2 of API 5L. Please Clarify.	Pipe ends shall be bevelled as per API 5L i.e. bevel angle 30°-35° and root face 1.6 mm ± 0.8 mm.



INDRAPRASTHA GAS LIMITED
IGL Bhawan, 4, Community Center,
Sector-9, R.K. Puram, New Delhi - 110022

TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical																				
Sl. No.	Spec No.	Cl No.	Page No./Section	Description						Bidder's Query/Clarification	IGL Reply									
122	6.0 Note 16 client Spec CL 9.12.5.7 PBQ Sr. No.1			Both pipe ends of each pipe shall be provided with metallic or high impact plastic bevel protectors/end cap as per Manufacturer's standard. Bevel protectors/end shall be of a design such that they can be re-used by coating applicator for providing on externally anticorrosion coated pipes subsequent to coating of line pipe. The details of the bevel protector/end caps shall be furnished for approval prior to start of the production Plastic push fit types end caps shall be installed on all small diameter pipe ends. Bevel Protectors Both pipe ends of each pipe shall be provided with metallic or high impact plastic bevel protectors as per Manufacturer's standard. Bevel protectors shall be of a design such that they can be re-used by coating applicator for providing on externally anti-corrosion coated pipes subsequent to coating of line pipe. The details of the bevel protector/end caps shall be furnished for approval prior to start of the production. Plastic push fit types end caps shall be installed on all small diameter pipe ends. Kindly reconfirm that for size 6.625" & below, plastic end cap to be used. IGL reply: Confirmed.						Bidder confirms to supply small diameter pipes (6.625" & 4.5"OD) with plastic end caps. However, 12.75" & 8.625" OD pipes shall be supplied with metallic bevel end protectors. Please Confirm	Confirmed									
123	7.0 note.3 15 (Client Spec.) Document requirements spec CL 4.6.3			20.	Final technical file	--	--	--	6	With shipping	Bidder proposes to provide MRB dossier in soft copy / through eMRB. No Hard copy to be provided. Please Confirm.	One Hard Copy and One eMRB to be provided								
124	2			NORMATIVE REFERENCES The latest edition (edition enforce at the time of issue of enquiry) of following additional references are included in this specification: ASTM F112-12- Standard Test Methods for Determining Average Grain size						Bidder understands that the latest year edition of ASTM E112 is of 2025.We confirm to follow this latest edition. Please Confirm.	Confirmed									
125	9.8.2.1 9.8.3			Pipe body tests The average (set of three test pieces) absorbed energy value (KvT) for each pipe body test shall be as specified in Table 8 of this specification, based upon full sized test pieces at a test temperature of 0°C(32°F) or at a lower test temperature as specified in the Purchase Order/ Material Requisition/Data sheets. Pipe weld and HAZ tests The average (set of three test pieces) absorbed energy value (Kv1) for each pipe weld and HAZ test shall be as specified in Table 8 of this specification, based upon full-size test pieces at a test temperature of 0°C (32°F) or at a lower test temperature as specified in the Purchase Order/ Material Requisition/Data sheets.						Bidder Clarifies that CVN absorbed energy value for Pipe body, Weld and HAZ of PSL2 Pipe is considered as per Table 8 of Client Spec. However, CVN requirements specified in Annex G of Client specification is not considered. Please Confirm.	Confirmed									
126	10.2.3.3 10.2.3.1			Test pieces for the CVN impact test In addition to the API Spec 5L requirements, following shall also be applicable: The test pieces shall be prepared in accordance with ASTM A370. Non-flattened test pieces shall be used. The axis of the notch shall be perpendicular to the pipe surface. Charpy V-notch impact testing shall be performed on full-sized test pieces. However, if preparation of full size test piece is not possible, then standard sub-sized test pieces shall be prepared as per ASTM A370. Lower pipe sizes wherein preparation of transverse sub-sized specimen is not possible, CVN impact testing shall be carried out on longitudinal test specimen [see Note 'a' of Table 8 of this specification]. General <table><tr><th>Sample Location</th><th>Type of test</th><th>Number, Orientation and location of test pieces per sample</th></tr><tr><td>Pipe body</td><td>CVN</td><td>3T90</td></tr><tr><td>Seam Weld</td><td>CVN</td><td>3W and 3HAZ</td></tr></table>						Sample Location	Type of test	Number, Orientation and location of test pieces per sample	Pipe body	CVN	3T90	Seam Weld	CVN	3W and 3HAZ	Bidder clarifies that sample extraction for 6.625" & 4.5"OD with the specified wall thickness in transverse direction is not feasible. However, non-flattened sub-size specimen can be extracted in longitudinal direction for 6.625" & 4.5"OD for base metal only. For ERW pipes, sample extraction for weld & HAZ in longitudinal direction is also not feasible for 6.625" & 4.5"OD. Please Confirm.	Tender Conditions shall prevail
Sample Location	Type of test	Number, Orientation and location of test pieces per sample																		
Pipe body	CVN	3T90																		
Seam Weld	CVN	3W and 3HAZ																		
127	10.2.1.2 Table 18			b Pipes selected shall be such that one at the beginning of the heat and one at the end of the heat are also represented. <table><tr><td>2</td><td>Product analysis ^b</td><td>Two pipes per lot (maximum 100 pipes) per heat</td></tr></table>						2	Product analysis ^b	Two pipes per lot (maximum 100 pipes) per heat	Bidder confirms for product analysis in pipes with 2 samples / 100 pipes / heat shall be selected randomly from the heat used at pipe mill for pipe production with lot of 100 pipes. Please Confirm.	Tender Conditions shall prevail						
2	Product analysis ^b	Two pipes per lot (maximum 100 pipes) per heat																		
128	10.2.8.7			The measuring equipment requiring calibration or verification under the provisions of API Spec 5L shall be calibrated with manual instruments at least once per operating shift (12 hours maximum). Such calibration records shall be furnished to Purchaser's Representative on request						Bidder confirms that repeatability of measuring instruments Verification of all measuring instruments shall be done in each shift of 12 hours at final station. Record of same shall be furnished to the appointed representative. However, Bidder clarifies that calibration of dimension measuring equipment shall be done on yearly basis from an external NABL lab. Please Confirm.	Confirmed									



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TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
129	11.2.8 MR CL 6.0 Note 22 MR CL 6.0 Note 23			A colour 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. The colour code band shall be 50 mm wide and shall be marked at a distance of 150 mm from the pipe ends. Color bands of 50 mm width to be placed at both the ends, inside of Bare Pipes at a distance of 150 mm from the pipe ends and outside of 3LPE Coated Pipes at a distance of 450 mm from the pipe ends. White Band marking inside for all the items.	Bidder understand that the specified requirement as same diameter and different wall thickness for colour code is not applicable. Accordingly not considered. However, if colour code is required please provide the colour code band colours for different wall thickness or diameter. Please Confirm.	Tender Conditions shall prevail
130	E.5.1.1			In addition to the API Spec 5L requirements, all automatic ultrasonic equipment shall have an alarm device, which continuously monitors the effectiveness of the coupling. The equipment for the automatic inspection shall allow the localization of both longitudinal and transverse defects corresponding to the signals exceeding the acceptance limits of the reference standard. The equipment shall be fitted with a paint spray or automatic marking device and alarm device for areas giving unacceptable ultrasonic indications. All ultrasonic testing equipment shall be provided with recording device. In addition, an automatic weld tracking system shall be provided for correct positioning of the probes with respect to weld center.	Bidder intend to clarify that Ultrasonic testing for pipe Body for size 6.625" & 4.5" OD will be carried out after pipe forming using ROTO UT (immersion technique) as per Client Spec CL E.11, where seam tracking will not be applicable. However, the requirement of automatic weld seam tracking system is confirmed for the pipe size 12.75" & 8.625"OD. Please Confirm.	Tender Conditions shall prevail
131	E.5.2.3.2			Reference Standards for coil/pipe body UT: Reference standard for the ultrasonic inspection of coil or pipe body (except the coil edges /pipe ends) shall contain continuous machined notch of the following dimension: (a)Width, w : 8mm with a tolerance +0.8/-0.0mm (b)Depth, d : 0.25t < d < 0.5t, where t is the specified wall thickness	Bidder clarifies for point No. (a):- We will use continuous machined notch of 6mm Width with a tolerance of +0.6/ -0.0 mm as a reference standard for coil or pipe body which is more stringent than the client requirements however reference standard for Coil edges / HAZ shall be as per client specification. Please Confirm.	Confirmed
132	—			General	Bidder has retained Inspection & Test Plan of Electric Welded Line Pipes for information only, however project specific ITP shall be submitted upon receipt of award of Contract. Please Confirm	Confirmed
133	3.2			In process inspection Raw material Inspection 1) Mechanical 2) Chemical 3) Impact	Bidder confirms to perform only tensile test (transverse) & Chemical analysis of received coil as incoming material inspection test with frequency of one/heat. No CVN test to be carried out at pipe mill on coils as incoming material inspection. However, The coil MTC received from steel mill shall be reviewed for the referenced tests. Also clarifies that CVN will be carried out on pipes as per frequency specified in tender specification for pipes. Please Confirm.	Confirmed
134	—			QUANTUM OF CHECK: One/Heat Inspection And Test Plan For Supply Of Steel Coil / Plate	Quantum of check of steel / coil at steel mill shall be as agreed with the opted steel mill and can be further agreed with Client in case of order award. Please Confirm.	Tender conditions shall prevail
135	MR			6.0 DESIGN DATA Notes: 13.0 Pipe roughness shall be 40 Micron.	Bidder would like to clarify that there is no internal coating requirement in this tender, also pipes are required to be supplied with 3LPE coating. Accordingly, the requirement specified herein of pipe roughness shall not be applicable. Hence not considered. Please confirm.	Pipe roughness shall be 40 microns & This shall be applicable for the portion of the pipe that is bare.
136	MR			6.0 DESIGN DATA Notes: 22.0 Color bands of 50 mm width to be placed at both the ends, inside of Bare Pipes at a distance of 150 mm from the pipe ends and outside of 3LPE Coated Pipes at a distance of 450 mm from the pipe ends. 23.0 White Band marking inside for all the items	Please clarify the specific colour requirement for the band to be placed on outside surface of pipe, after 3LPE coating. Please confirm.	Tender conditions shall prevail
137	MR			7.0 DOCUMENTS & DATA REQUIREMENTS Documents and Data : Final technical file Number of copies : 6 NOTES 3) Final technical file shall be supplied in hard copy as indicated, and in electronic format (PDF Acrobat files) on two (2) CD- ROM.	Bidder propose to submit eMRB instead of hard copy. Please confirm.	One Hard Copy and One eMRB to be provided
138	IGL-SS-PP-2027			1.0 SCOPE This specification covers the minimum requirements for materials and equipment, application procedure and inspection of repair of damaged Polyethylene coatings on steel pipes. This specification is applicable for repairing damages less than 100mm x 100 mm for pipe sizes less than 10", 150mm x 150mm for pipe sizes between 12" to 28" and 300mm x 300mm for pipe sizes more than 28".	Bidder understands that IGL-SS-PP-2027 is not applicable for plant applied coating repair. However, Repair at coating plant shall be carried out as per clause no. 13 of the 3LPE coating specification. Please confirm.	Bidder's understanding is correct



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TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical						
Sl. No.	Spec No.	Cl No.	Page No./Section	Description	Bidder's Query/Clarification	IGL Reply
139	Cl. 4.2 of IGL-SS-PP-2003			4.0 COATING MATERIALS: The coating material manufacturers shall carry out tests for all properties specified in clause 5.4.1, 5.4.2 & 5.4.3 and Table 2, 3 & 4 respectively for each batch of epoxy, adhesive and polyethylene compound. The coating materials manufacturer shall issue test certificates as per BS EN 10204, 3.1 for each batch of materials supplied to Applicator/ Contractor indicating all contents/ parameters required for batch certification as per clause 9.3, Table 6 of ISO 21809-1:2018 and the same shall be submitted to Owner for approval prior to their use.	Bidder clarifies that material manufacturer will provide test certificate for all properties specified in Table 2, Table 3 and Table 4 of specification for each batch of epoxy, adhesive and polyethylene compound respectively. However, all the properties will not be tested for each batch. Epoxy, Adhesive and Polyethylene manufacturer will provide batch test certificate for the measured value and typical value as mentioned below: Epoxy Powder: All Properties tested for each batch as per Table 2 PE Adhesive: MFR, Density and Water content results shall be reported as measured value for each batch whereas the Strain at break, Stress at yield and Vicat Softening Temperature will be reported as typical values supported by reputed lab reports. High Density Polyethylene: Density, Melt Flow Rate, Oxidation Induction Time, Carbon Black Content, Water Content results shall be reported as measured value for each batch. The properties –Hardness Shore D, Strain at break, Stress at yield, Vicat Softening Temperature, ESCR, Carbon black dispersion, UV resistance, Thermal Aging, Volume resistivity and Dielectric Withstand shall be reported as typical value supported by independent lab test report valid for one year. For UV resistance, Thermal ageing and Coating Resistivity test bidder will submit independent laboratory test report furnished by material manufacturer. These test certificates will not be older than three years. Please confirm.	Tender conditions shall prevail
140	Cl. 3.7 of IGL-SS-PP-2003			3.0 PLANT SCALE AND INSTALLATION: The conductivity of DI (De-Ionized) water (if used) shall be less than 5 micro Siemens/cm and rinse water pressure shall be minimum 1500 psi.	Bidder propose that High pressure water rinse shall be carried out at a pressure >1000 psi / 70 bar or as recommended by phosphoric acid material manufacturer. Please confirm.	Tender conditions shall prevail
141	Cl. 7.2.9, Sr. No. 7 of table 10 of IGL-SS-PP-2003			7.2 Chemical pre-treatment with phosphoric acid solution (if specified): 7.2.9 The salt tests shall be carried out after de-ionized water rinse at one end of each pipe at the blasting inspection bed. The acceptance criteria shall be 2µg/cm2. An approved salt meter (SCM 400 or equivalent) shall be used to carry out salt tests and shall be calibrated in accordance with the equipment manufacturer's recommendations. Sr. No. 7 of table 10 Soluble salt after blasting (at one end)	Bidder understands that salt contamination test to be carry out after second abrasive blasting at blasting inspection station as per Table 10 of 3LPE coating specification. Please confirm.	Confirmed
142	Cl. 8.3.4.1 of IGL-SS-PP-2003			8.3.4.1 Phosphoric Acid Wash followed by De-ionized Water Wash (If specified):	Bidder understands that Phosphoric Acid Wash is not mandatory requirement. Please confirm.	only applicable when salt contamination level is observed more than 2 µg/cm2
143	Cl. 10.3 of IGL-SS-PP-2003			10.3 Chemical Pre-treatment with Phosphoric Acid Solution and / or Chromate Treatment (If specified by the Owner):	Bidder understands that Chromate Treatment is not required. Please confirm.	Tender conditions shall prevail Phosphoric acid wash followed by de-ionized water wash shall be carried out, only if, salt contamination level is observed more than 2µg/cm2 after blast cleaning.
144	Cl. 7.4.1 & 15 of IGL-SS-PP-2003			7.4.1 Pipe Heating: Temperature measuring & monitoring equipment shall be calibrated twice every shift and/or as per Owner Representative's instruction. 15 of INSPECTION, MEASURING AND TEST EQUIPMENT: All inspection, measuring and test equipment shall be good working condition and have valid calibration certificates traceable to ISO 17025 accredited calibration laboratory or equivalent. In addition to the above, the following measuring	Bidder clarifies that the pyrometers are used for monitoring of PE & adhesive temperature and the same is specialized equipment and are calibrated in specialized equip outside laboratory, so we propose to review the outside lab calibration certificate. In accordance with clause 15 of 3LPE coating specification. However, the pyrometer will be verified for errors every shift against a calibrated temperature-measuring instrument. Please confirm.	Tender conditions shall prevail
145	Cl. 13.1.7 of IGL-SS-PP-2003			13.1.7 In case of coating defect close to coating cut back, applicator shall remove the coating throughout the entire circumference of the pipe down to the steel surface and increase the coating cut back length. Now if the coating cutback exceeds 150 mm linear length of pipe then the coating shall be repaired by the use of heat shrink sleeves thereby making up the coating cut back length of 150 mm; 7.4.3.1 3LPE coating shall terminate 150 mm (+) 20/ (-) 0 mm from pipe ends. Applicator shall adopt mechanical brushing and / or tooling device for termination of 3LPE coating at pipe ends. Edge of the polyethylene layer shall be shaped to form a bevel angle not exceeding 30° in the direction of pipe axis. FBE layer at the cut back shall protrude 20+/-5mm from the edge of the toe of the polyethylene layer. Damaged FBE toe shall be repaired aesthetically using compatible liquid epoxy, recommended by FBE manufacturer. Table 12 — Requirements for Inspection of Plant Applied Coating (PQT & Production) Sr. No. 4.20 - Cutback of 3LPE coating: 150 mm (+) 20 / (-) 0 mm	Bidder understands that if the coating cutback exceeds 170 mm (150 mm (+) 20 / (-) 0 mm) instead of 150 mm linear length of pipe, then the coating shall be repaired by the use of heat shrink sleeves thereby making up the coating cut back length of 150 mm (+) 20 / (-) 0 mm. Please confirm.	Confirmed



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TENDER NO. IGL/ET2/CP/CP18969
Supply of 3LPE Coated CS Linepipe

Replies to Bidders' Queries - 1

Technical								
Sl. No.	Spec No.	Cl No.	Page No./Section	Description			Bidder's Query/Clarification	IGL Reply
146	Annexure-I of IGL-SS-PP-2003			LIST OF ACCEPTABLE COMBINATIONS OF COATING MATERIALS			Bidder propose to consider high density polyethylene material "HE 3450" also which meets the specified requirements. Please confirm.	Tender conditions shall prevail
				JOTAPIPE AC 2001 (Formerly, CORRO-COAT EP-F 2001) / JOTAPIPE AC 2002 (Formerly, CORRO-COAT EP-F 2002HW) / JOTAPIPE AC 1003 (Formerly, CORRO-COAT EP-F -1003HW) (JOTUN) or SCOTCHKOTE 226N (3M) or PIPECLAD 2000/PIPECLAD 1000 (SHERWIN-WILLIAMS)	ME 0420 (BOREALIS)	HE 3450H (BOREALIS / BOROUGE)		