#### OIL INDIA LIMITED

(A Government of India Enterprise)
P.O. Duliajan – 786602, Assam, India
Website: www.oil-india.com

### Corrigendum No. 2 to IFB No. CPG4307P21

# Procurement of Assorted Line Pipes and Bends for Gas Distribution Pipeline and Crude Oil Dispatch (COD) Pipeline of Oil India Limited

- 1.0 This Corrigendum is issued to notify the following:
- a) Terms, conditions, specifications and stipulations of the Bidding Document shall stand modified to the extent indicated here below under column "Modified Clause" of **Annexure- I**.
- b) OIL's clarification on interpretation of terms & conditions, specifications in various sections of bidding document is attached herewith as **Annexure-II**
- c) Complete Material Requisition Sheet is attached herewith as Annexure-III
- d) Revised SOR is available under "Notes and Attachment" in e-tender portal.
- 2.0 Bidder shall be guided by the tender document and latest edition of API 5L/ latest edition of DIN 30670/ latest edition of the relevant code/standard (wherever applicable).
- 3.0 All other terms and conditions of the tender remain unaltered.
- 4.0 All the prospective bidders are requested to regularly visit OIL's website: <a href="https://etender.srm.oilindia.in/irj/portal">www.oil-india.com</a> and e-procurement portal <a href="https://etender.srm.oilindia.in/irj/portal">https://etender.srm.oilindia.in/irj/portal</a> for further announcements/latest information related to this tender.
- 5.0 Bidder to submit this Corrigendum No. 02 along with **Annexure I, II & III** duly signed & stamped in all pages as token of acceptance and shall upload this document in the un-priced folder of the e- bid.

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STATEMENT SHOWING EXISTING VIS-À-VIS MODIFIED PROVISIONS OF TERMS & CONDITIONS, SPECIFICATIONS
IN VARIOUS SECTIONS OF BIDDING DOCUMENT

Annexure- I

SL No.	RFQ Section	CLAUSE NO.	Туре	EXISTING PROVISION	MODIFIED PROVISIONS
1	Forwarding Letter Volume-1	4.7	Modification	MSEs Units (manufacturers/Service Providers only and not their dealers/distributors) who are already registered with District Industry Centers or Khadi& Village Industries Commission or Khadi& Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts & Handloom or any other body specified by Ministry of MSME are exempted from payment of Bid Security (EMD) irrespective of monetary limit/capacity and category of registration provided that certificate issued by the relevant agency is registered for undertaking Manufacturing against Supply Orders/Contracts and is valid (wherever validity is specified in the certificate) on the date of Bid Closing Date.	Micro or Small Enterprises (MSE) registered with District Industry Centers or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of MSME are exempted from payment of Bid Security (EMD) provided that they shall submit copy of valid Registration Certificate for the items they intend to quote along with the bidwhich shall be valid (wherever validity is specified in the certificate) on the date of latest Bid Closing Date. The Registration Certificate should clearly indicate the monetary limit, if any and the items for which bidder are registered with any of the aforesaid agencies. In case bidding MSE is owned by Schedule Caste or Schedule Tribe entrepreneur, valid documentary evidence issued by the agency who has registered the bidder as MSE owned by SC/ST entrepreneur/ Woman Entrepreneurs should also be enclosed.  The turnover related figures of the bidders claiming as MSE bidders as mentioned above shall be considered based on Bidders self-declarations to be submitted with their bid as per new gazette notification no. CG-DL-E-26062020-220191 dated 26.06.2020. However, in case of any intentional misrepresents or attempts to suppress facts in the self-declaration, the bidder shall be liable to penalty as specified under section 27 of the Act.  The bidder claiming as MSE status (MSE-General, MSE-SC/ST, MSE -Woman) against this tender has to submit

					valid "Udyam Registration No" (URN) as per Gazette notification no CG-DL-E-26062020-220191 dated 26.06.2020 issued by MINISTRY OF MICRO, SMALL AND MEDIUM ENTERPRISES The existing enterprises registered under EM- Part-II or UAM till 30th June, 2020, shall continue to be valid only for a period up to the 31st day of March, 2021.
2	Part 1 ITB Volume 1	12.2	Modification	MSEs Units (manufacturers/Service Providers only and not their dealers/distributors) who are already registered with District Industry Centers or Khadi& Village Industries Commission or Khadi& Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts & Handloom or any other body specified by Ministry of MSME are exempted from payment of Bid Security (EMD) irrespective of monetary limit/capacity and category of registration provided that certificate issued by the relevant agency is registered for undertaking Manufacturing against Supply Orders/Contracts and is valid (wherever validity is specified in the certificate) on the date of Bid Closing Date.In case bidding MSE is owned by Schedule Caste or Schedule Tribe entrepreneur, valid documentary evidence issued by the agency who has registered the bidder as MSE owned by SC/ST entrepreneur should also be enclosed.	Micro or Small Enterprises (MSE) registered with District Industry Centers or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of MSME are exempted from payment of Bid Security (EMD) provided that they shall submit copy of valid Registration Certificate for the items they intend to quote along with the bidwhich shall be valid (wherever validity is specified in the certificate) on the date of latest Bid Closing Date. The Registration Certificate should clearly indicate the monetary limit, if any and the items for which bidder are registered with any of the aforesaid agencies. In case bidding MSE is owned by Schedule Caste or Schedule Tribe entrepreneur, valid documentary evidence issued by the agency who has registered the bidder as MSE owned by SC/ST entrepreneur/ Woman Entrepreneurs should also be enclosed.  The turnover related figures of the bidders claiming as MSE bidders as mentioned above shall be considered based on Bidders self-declarations to be submitted with their bid as per new gazette notification no. CG-DL-E-26062020-220191 dated 26.06.2020. However, in case of any intentional misrepresents or attempts to suppress facts in the self-declaration, the bidder shall be liable to penalty as specified under section 27 of the Act.
3	Part 1 ITB Volume 1	12.3	Addition	No provision exists	The bidder claiming as MSE status (MSE-General, MSE-SC/ST, MSE -Woman) against this tender has to submit valid "Udyam Registration No" (URN) as per Gazette

					notification no CG-DL-E-26062020-220191 dated 26.06.2020 issued by MINISTRY OF MICRO, SMALL AND MEDIUM ENTERPRISES The existing enterprises registered under EM- Part-II or UAM till 30th June, 2020, shall continue to be valid only for a period up to the 31st day of March, 2021.
4	Volume-II	C1. No. 6.5.4 of Scope of work and specificati ons for 3 layer side extruded polyethyle ne coating	Modification	Properties Tensile strength @ + 25 0C	Properties Tensile strength @ +25 °C
5	Part 1 ITB Volume 1	35.2.2	Modification	NOTE:  a. In case of bidder(s) for whom Statutory Auditor is not required as per law required certificates shall be provided by a practicing Chartered Accountant.  b. In case the manufacturer himself is bidding, then the certificate shall be submitted by the Statutory Auditors of the manufacturer who shall provide the break-up of the cost component as per Enclosure-II of the policy documents.  c. In case of bidder is a supplier quoting on behalf of manufacturer, then the certificate shall be submitted by the Statutory Auditors of the supplier who shall provide the break-up of the cost component of the manufacturer as per Enclosure-II of the policy documents. The responsibility for the certificate provided by the statutory auditor of the supplier shall be that of the supplier.  d. In case the tender scope covers testing, installation and commissioning and any other	a. In case of foreign bidder, certificate(with regard to the fulfillment of minimum mandatory local content requirement) from the Statutory Auditor or Cost Auditor of their own office or subsidiary in India giving the percentage of local content is also acceptable. In case, office or subsidiary in India does not exist or Indian office/subsidiary is not required to appoint Statutory Auditors or Cost auditors, certificate from practicing cost accountant or practicing Chartered Accountant in India or practicing cost accountant in India shall also be acceptable.  b. In case the manufacturer himself is bidding, then the certificate shall be submitted by the Statutory Auditors etc. of the manufacturer.  c. In case the bidder is a supplier quoting on behalf of manufacturer, then the certificate shall be submitted by the Statutory Auditors etc. of the supplier. The responsibility for the certificate provided by the statutory auditor of the supplier shall be that of the supplier.  d. In case the tender scope covers testing, installation and commissioning and any other services in respect of the

				services in respect of the supplied goods/equipment, then such costs shall also be considered in LC for which the bidder shall provide certificate from the Statutory Auditors or the Chartered Accountants as the case may be.	supplied goods/equipment, then such costs shall also be considered in LC
6	Part 1 ITB Volume 1	35.2.2.3.	Modification	At the bidding stage the bidder shall provide Break-up of "Local Component" and "Imported Component" in the prescribed format and submit/ uploaded (in the e-procurement portal in case of e-tender) along with their price.	At the bidding stage the bidder shall provide undertaking, certificate as per above provisions. Sample format for calculation of LC may be seen in Enclosure II of PP-LC Policy. Bidders confirmation on LC shall be based on the calculation shown in this enclosure.  However, this enclosure shall not be required to be included in the bid or uploaded by the bidder in the e-procurement portal in case of e-tender.
7	Part 1 ITB Volume 1	35.2.6	Modification	For the purpose of this policy, all terms used vide aforesaid policy shall be governed by the definitions specified at para 2 of the policy document notified by MoPNG vide letter No. O-27011/44/2015-ONG/II/FP dated 25.04.2017.	All terms used herein above shall be interpreted/governed by the definitions provided at para 2.0 of the policy document notified by MoPNG vide letter No. FP 20013/2/2017-FP-PNG dated 07.10.2019
8	Part 1 ITB Volume 1	35.2.7.2	Modification	The criteria for determination of the Local Content cost shall be as follows:  a) In the case of direct component (material), based on country of origin. b) In the case of manpower based on INR component and c) In the case of working equipment/facility, based on the country of origin.	The criteria for determination of the Local Content cost shall be as follows:  a) In the case of direct component (material), based on country of origin.  b)In the case of manpower based on INR component
9	Part 1 ITB Volume 1	35.2.9.1.1	Modification	At bidding stage:  a) Price Break-up: (i) The bidder shall provide break-up of "Local Component" and "Imported Component" along with the price bid as per provisions under clause 35.2.2.3. (ii) Bidder must have LC in excess of the specified requirement.	At bidding stage: a)Local Content: (i)The bidder shall provide the percentage of Local Content in the bid as per provisions under clause No. clause 35.2.2.3 above. (ii)Bidder must have LC in excess of the specified requirement.

10	Part 1 ITB Volume 1	35.2.9.1.1	Modification	b) Undertaking by the bidder: (i) The bidder shall submit undertaking along with the techno-commercial bid as per clause no. 35.2.2.1., such undertaking shall become apart of the contract. (ii) Bidder shall also submit the list of items /services to be procured from Indian manufacturers / service providers. c) Statutory Auditor's Certificate: (i) The Undertaking submitted by the bidder shall be support by a certificate from Statutory Auditor as per clause 35.2.2.2.	b). Undertaking by the bidder:  (i)The bidder shall submit an undertaking as above from the authorized signatory of bidder having the power of Attorney along with the techno-commercial bid stating the bidder meets the mandatory minimum LC requirement and such undertaking shall become a part of the contract. In cases of procurement for a value in excess of Rs 10 Crores, the undertaking submitted by the bidder shall be supported by a certificate from Statutory Auditor or Cost Auditor of the company(in the case of companies) or from a practising Cost Accountant or practicing Chartered Accountant (in respect of other than companies) giving the percentage of local content. However, in case of foreign bidder, certificate from the Statutory Auditor or Cost Auditor of their own office or subsidiary in India giving the percentage of local content is also acceptable. In case, office or subsidiary in  India does not exist or Indian office/ subsidiary is not required to appoint Statutory Auditor or Cost auditor, certificate from practicing Cost Accountant in India or practicing Chartered Accountant in India giving the percentage of local content is also acceptable.  (ii) The Bidder shall submit undertaking alongwith the techno-commercial bid categorically confirming that in the event of an order under PP-LC, they will furnish additional bank guarantee pursuant to clause below.
11	Part 1 ITB Volume 1	35.2.9.1.2	Modification	After Contract Award:  a) In the case of procurement cases with the value less than INR. 500,00,000 (Rupees Five Crore), the LC content maybe calculated (self-assessment) by the supplier of goods and/or the provider of services and certified by the Director/Authorized Representative of the Company.  b) The verification of the procurement cases with the value Rupees Five Crore and above	After Contract Award:  a)The bidder shall submit an undertaking from the authorized signatory of bidder having the power of Attorney alongwith the bid stating the bidder meets the mandatory minimum LC requirement and such undertaking shall become a part of the contract.  In cases of procurement for a value in excess of Rs 10 Crores, the undertaking submitted by the bidder shall be supported by a certificate from Statutory Auditor or Cost Auditor of the company(in the case of companies) or from a practising Cost Accountant or practicing Chartered Accountant (in respect of other than companies) giving the

	shall be	carried out by a	a Statutory	Auditor	percentage of local content.
	engaged	by the bidder.	2		However, in case of foreign bidder, certificate from the
					Statutory Auditor or Cost Auditor of their own office or
					subsidiary in India giving the percentage of local content is
					also acceptable. In case, office or subsidiary in
					India does not exist or Indian office/ subsidiary is not
					required to appoint Statutory Auditor or Cost auditor,
					certificate from practicing Cost Accountant in India or
					practicing Chartered Accountant in India giving the
					percentage of local content is also acceptable.
					b) Bidder must submit Additional Bank Guarantee within
					30 days of award of contract under PP-LC.

### **Annexure- II**

# OIL'S CLARIFICATION ON INTERPRETATION OF TERMS & CONDITIONS, SPECIFICATIONS IN VARIOUS SECTIONS OF BIDDING DOCUMENT

SL	RFQ	CLAUSE	Type EXISTING PROVISION		CLARIFICATION
No.	Section	NO.			
1	BID EVALUATION CRITERIA (BEC)/BID REJECTION CRITERIA (BRC)	1.1	Clarification	The details of Line Pipes to be supplied are in Table 1 below:  The details of Bends to be supplied are in Table 2 below:	The details of Line Pipes to be supplied are as per Complete Material Requisition Sheet is attached herewith as <b>Annexure-III</b> The details of Bends to be supplied are as per Complete Material Requisition Sheet is attached herewith as <b>Annexure-III</b>
2	BID EVALUATION CRITERIA (BEC)/BID REJECTION CRITERIA (BRC)  A.1 BRC- Technical Part- 2 Volume- I	Clause 5.3	Clarification	The manufacturing mill of the offered Bends must have API Spec. 5L – Product Specification Level 2 (PSL 2) certifications for the preceding five (5) years from the original bid closing date of the tender and the same must be valid as on the scheduled original bid closing date. Copies of relevant API license to use API monogram (API 5L at PSL-2) for the last 5 (Five) years (i.e. continuous without having any break in between) shall be submitted along with the techno-commercial bid. Bids without copies of valid API certificates or with break in between shall be rejected.	Bend Mother pipes manufacturing mill must have API Spec. 5L – Product Specification Level 2 (PSL 2) certifications for the preceding five (5) years from the original bid closing date of the tender. Copies of relevant API license to use API monogram (API 5L at PSL-2) for the last 5 (Five) years shall be submitted along with the techno-commercial bid. The Bend manufacturing process shall complywith relevant standards (ASME B16.49) including the detailed specs mentioned in the tender.

3	BID EVALUATION CRITERIA (BEC)/BID REJECTION CRITERIA (BRC) Part- 2 Volume- I  G. PURCHASE PREFEREN CE POLICY (IES): 1. Purchase Preference to Micro and Small Enterprises:	Purchase Preference to Micro and Small Enterprises registered with District Industry Centres or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of MSME or UdyogAadhaar Memorandum	Purchase Preference will be applicable as per the MSME Gazette Notification No CG-DL-E- 26062020-220191 dated 26.06.2020 issued for identifying MSE vendors.
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## Material Requisition detailed list

The details of Line Pipes to be supplied are in Table-1below:

Table 1

Item No.	Des	cription		QTY	Type of	Type of
A	Manufacturing & Supply of Li	ine Pipes as pe	er following details	(Meter)	End	Finish
	1	aterial Grade	Specified Wall			
	Diameter inch(mm)		Thickness (mm)			
A.1	400 MM(16") NB	X60	6.4 MM W/T	23000	Bevel End	3 LPE PRECOATED
A.2	400 MM(16") NB	X60	7.1 MM W/T	200	Bevel End	3 LPE COATED
A.3			DELETED FROM S	COPE OF SU	PPLY	
A.4	350 MM(14") NB	X60	6.4 MM W/T	40000	Bevel End	3 LPE COATED
A.5	350 MM(14") NB	X60	7.1 MM W/T	2100	Bevel End	3 LPE COATED
A.6			DELETED FROM S	COPE OF SU	PPLY	
A.7			DELETED FROM S	COPE OF SU	PPLY	
A.8			DELETED FROM SCOPE OF SUPPLY			
A.9	200 MM (8") NB	X46	6.4 MM W/T	63000	Bevel End	3 LPE COATED
A.10	200 MM(8") NB	X46	8.7 MM W/T	60	Bevel End	BARE
A.11	150MM(6") NB	X46	6.4 MM W/T	40	Bevel End	BARE
A.12					PPLY	
A.13	400 MM(16") NB	X60	8.7 MM W/T	30	Bevel End	BARE
A.14	350 MM(14") NB	X60	8.7 MM W/T	50	Bevel End	BARE
A.15	200 MM(8") NB	X46	7.0 MM W/T	2300	Bevel End	3 LPE COATED
A.16	500 MM(20") NB	X46	6.4 MM W/T	420	Bevel End	BARE

S1. No.	Item No.	Specified Outside Diameter inch(mm)	(M)	Description		
1	A.1	400 MM(16") NB	23000	Three Layer polyethylene Precoated Bevel ended Line Pipe, 16" (400mm), NB ERW/LSAW/HSAW, Grade X-60, PSL-2, W/T= 6.4 mm, Double random length, Test mill Pressure (Hydraulic):114kg/sqcm as per API 5L latest edition.		
2	A.2	400 MM(16") NB	200	Line pipe Bevel Ended 3 Layer Polyethylene coated 400mm (16") NB dia, ERW/LSAW/HSAW, Grade API 5L X60, PSL -2, W/T 7.1 mm as per API 5L latest edition having following specification i) Pipe Outside diameter: 406.4 mm, ii) Thickness: 7.1 mm, iii) Length: Double random length, iv) Test mill Pressure: 126 kg/sq cm		
3	A.3			DELETED FROM SCOPE OF SUPPLY		
4	A.4	350 MM(14") NB	40000	Line pipe Bevel Ended 3 Layer Polyethylene coated 350mm (14") NB dia, ERW/LSAW/HSAW, Grade API 5L X-60,PSL -2, W/T 6.4 mm as per API 5L latest edition having following specification i) Pipe Outside diameter: 355.6 mm, ii) Thickness: 6.4 mm, iii) Length: Double random length, iv) Test mill Pressure: 128 kg/sq cm		
5	A.5	350 MM(14") NB	2100	Line pipe Bevel Ended 3 Layer Polyethylene coated 350mm (14") NB dia, ERW/LSAW/HSAW, Grade API 5L X-60,PSL -2, W/T 7.1 mm as per API 5L latest edition having following specification i) Pipe Outside diameter: 355.6 mm, ii) Thickness: 7.1 mm, iii) Length: Double random length, iv) Test mill Pressure: 144 kg/sq cm		
6	A.6			DELETED FROM SCOPE OF SUPPLY		
7	A.7			DELETED FROM SCOPE OF SUPPLY		
9	A.8 A.9	200 MM (8.5/8") NB	63000	DELETED FROM SCOPE OF SUPPLY  Line pipe Bevel Ended 3 LPE coated 200mm (8.5/8") NB dia, ERW/LSAW/ HSAW, Grade API 5L X-46,PSL -2, W/T 6.4 mm as per API 5L latest edition having following specification .  i) Pipe Outside diameter 219.1mm (8.5/8"):  ii) Thickness: 6.4mm  iii) Length: Double random length iv)Test mill Pressure (Hydraulic): 140kg/sq cm		
10	A.10	200 MM(8") NB	60	Bevel ended (BARE)Line Pipe, 8# (200mm), NB ERW/LSAW/HSAW, Grade X-60, PSL-2, W/T= 8.7 mm, Double random length, Test mill Pressure (Hydraulic):211kg/sqcm as per API 5L latest edition		
11	A.11	150MM(6") NB	40	Bare Line pipe, Bevel Ended Dimensions: 150mm (6") NB diameter, ERW/LSAW/		

				HSAW/SeamlessGrade: API 5L X- 46,PSL -2 W/T: 6.4mm as per API 5L latest edition having
				followingspecifications:-
				i) Pipe Outside diameter: 168.3mm
				ii) Thickness:6.4mm
				ii) Length: Double random length
				iv) Test mill Pressure (Hydraulic):140kg/sqcm
12	A.12		•	DELETED FROM SCOPE OF SUPPLY
13	A.13	400 MM(16") NB	30	Bevel ended (BARE) Line Pipe, 16" (410 mm), NB ERW/LSAW/HSAW, Grade X-60, PLS-2, W/T = 8.7 mm, Double random length, Test mill Pressure (Hydraulic):154kg/sqcm as per API 5L latest
				edition.
14	A.14	350 MM(14") NB	50	Line pipe Bevel Ended bare 350mm (14") NB dia, ERW/LSAW/HSAW, Grade API 5L X-60,PSL -2,
				W/T 8.7 mm as per API 5L latest edition having following specification.
				i) Pipe Outside diameter: 355.6 mm,
				ii) Thickness: 8.7 mm,
				iii) Length : Double random length,
				iv) Test mill Pressure : 176 kg/sq cm"
15	A.15	200 MM(8.5/8")	2300	Line pipe Bevel Ended 3 LPE coated 200mm (8.5/8") NB dia ERW/LSAW/HSAW ,Grade API 5L X-
		NB		46,PSL -2, W/T 7.0 mm as per API 5L latest edition having following specification.
				i) Pipe Outside diameter 219.1mm (8 .5/8")
				ii) Thickness:7.0mm
				iii) Length :Double random length
				iv)Test mill Pressure (Hydraulic): 156 kg/sqcm
16	A.16	500 MM(20") NB	420	Line pipe Bevel Ended bare 500 mm (20") NB dia,
				ERW/LSAW/HSAW, Grade API 5L X-46,PSL -2, W/T 6.4 mm as per API 5L latest edition having
				following specification .
				i) Pipe Outside diameter: 508 mm,
				ii) Thickness: 6.4 mm, iii) Length: Double random length,
				iv) Test mill Pressure : 73.2 kg/sq cm

The details of Bends to be supplied are in Table-2below:

Table 2

Item No.		QTY (Nos)	Type of Finish			
В	Manufacturing & Supply of Bends as	, ,				
	Specified Outside Diameter	Bend Angle	Bend Radius	Material Grade		
	inch(mm)					
B.1	400 MM (16") NB	90 DEG	LONG RADIUS R= 6D	API 5L X-60	30	PRECOATED
B.2	400 MM (16") NB	60 DEG	LONG RADIUS R= 6D	API 5L X-60	2	PRECOATED
B.3	400 MM (16") NB	45 DEG	LONG RADIUS R= 6D	API 5L X-60	12	PRECOATED
B.4	400 MM (16") NB	30 DEG	LONG RADIUS R= 6D	API 5L X-60	6	PRECOATED
B.5	400 MM (16") NB	22.5 DEG	LONG RADIUS R= 6D	API 5L X-60	22	PRECOATED
B.6	350 MM(14") NB	90 DEG	LONG RADIUS R= 6D	API 5L X-60	47	PRECOATED
B.7	350 MM(14") NB	60 DEG	LONG RADIUS R= 6D	API 5L X-60	6	PRECOATED
B.8	350 MM(14") NB	45 DEG	LONG RADIUS R= 6D	API 5L X-60	8	PRECOATED
B.9	350 MM(14") NB	30 DEG	LONG RADIUS R= 6D	API 5L X-60	20	PRECOATED
B.10	350 MM(14") NB	22.5 DEG	LONG RADIUS R= 6D	API 5L X-60	32	PRECOATED
B.11	200MM (8") NB	90 DEG	LONG RADIUS R= 6D	API 5L X-46	77	PRECOATED
B.12	200MM (8") NB	60 DEG	LONG RADIUS R= 6D	API 5L X-46	8	PRECOATED
B.13	200MM (8") NB	45 DEG	LONG RADIUS R= 6D	API 5L X-46	20	PRECOATED
B.14	200MM (8") NB	30 DEG	LONG RADIUS R= 6D	API 5L X-46	26	PRECOATED
B.15	200MM (8") NB	22.5 DEG	LONG RADIUS R= 6D	API 5L X-46	54	PRECOATED

	S1.	Item No.	Specified Outside	QTY	Description
1	No.		Diameter	(Nos)	
			inch(mm)& Bend		
			Angle		

_	Т			
1	B.1	400 MM (16") NB& 90 deg	30	Heat Shrinkable Sleeve coated long radius bend, 90 Deg. As per para 2.2 of code ASME B16.49 std. (latest edition) the wall thickness at the intrados should be minimum 1.045 times nominal wall thickness and wall thickness of the bend should uniformly vary from intrados to neutral axis and wall thickness at the portion between neutral axis and extrados should be minimum 0.9 times the nominal wall thickness. Bend shall befabricated from line pipe 16" (400 mm) NB ERW/LSAW/HSAW, grade X-60,PSL-2 as per API 5L latest edition having following specification:  1. Pipe outside diameter: 406.4 mm  2. W/T suitable to achieve thickness tolerances mentioned above and suitable for welding with API 5L406.4 mm OD X60 bevel ended line pipe having wall thickness 6.4 mm, (R=6D where R is radius of bend and D is diameter of pipe)
2	B.2	400 MM (16") NB& 60 deg	2	Heat Shrinkable Sleeve coated long radius bend, 60 Deg. As perpara 2.2 of code ASME B16.49 std. (latest edition) the wall thickness at the intrados should be minimum 1.045 times nominal wall thickness and wall thickness of the bend should uniformly vary from intrados to neutral axis and wall thickness at the portion between neutral axis and extrados should be minimum 0.9 times the nominal wall thickness. Bend shall befabricated from line pipe 16" (400 mm) NB ERW/LSAW/HSAW,grade X-60, PSL-2 as per API 5L latest edition having following specification:  1. Pipe outside diameter: 406.4 mm 2. W/T suitable to achieveThickness tolerances mentioned above and suitable for welding with API 5L 406.4 mm OD X60 bevel ended line pipe having wall thickness 6.4 mm, (R=6D where R is radius of bend and D is diameter of pipe)
3	В.3	400 MM (16") NB& 45 deg	12	Heat Shrinkable Sleeve coated long radius bend, 45 Deg. As perpara 2.2 of code ASME B16.49 std. (latest edition) the wall thickness at the intrados should be minimum 1.045 times nominal wall thickness and wall thickness of the bend should uniformly vary from intrados to neutral axis and wall thickness at the portion between neutral axis and extrados should be minimum 0.9 times the nominal wall thickness. Bend shall befabricated from line pipe 16" (400 mm) NB ERW/LSAW/HSAW,grade X-60, PSL-2 as per API 5L latest edition having following specification:  1. Pipe outside diameter: 406.4 mm 2. W/T suitable to achieve thickness tolerances mentioned above and suitable for welding with API 5L406.4 mm OD X60 bevel ended line pipe having wall thickness 6.4 mm,(R=6D where R is radius of bend and D is diameter of pipe)
4	B.4	400 MM (16") NB& 30 deg	6	Heat Shrinkable Sleeve coated long radius bend, 30 Deg. As perpara 2.2of code ASME B16.49 std. (latest edition) the wall thickness at theintrados should be minimum 1.045 times nominal wall thickness and wall thickness of the bend should uniformly vary from intrados toneutralaxis and wall thickness at the portion between neutral axis andextradosshould be minimum 0.9 times the nominal wall thickness. Bendshall befabricated from line pipe 16" (400 mm) NB ERW/LSAW/HSAW,grade X-60,PSL-2 as per API 5L latest edition having following specification:  1. Pipe outside diameter: 406.4 mm 2. W/T suitable to achievethicknesstolerances mentioned above and suitable for welding with API 5L406.4mm OD X60 bevel ended line pipe having wall thickness 6.4 mm,(R=6D where R is radius of bend and D is diameter of pipe)

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5	B.5	400 MM (16") NB& 22.5 deg	22	Heat Shrinkable Sleeve coated long radius bend, 22.5 Deg. Asper para 2.2 of code ASME B16.49 std. (latest edition) the wall thickness at the intrados should be minimum 1.045 times nominal wall thickness and wallthickness of the bend should uniformly vary from intrados toneutralaxis and wall thickness at the portion between neutral axis and extrados should be minimum 0.9 times the nominal wall thickness. Bend shall befabricated from line pipe 16" (400 mm) NB ERW/LSAW/HSAW, grade X-60, PSL-2 as per API 5L latest edition having following specification:  1. Pipe outside diameter: 406.4 mm 2. W/T suitable to achievethickness tolerances mentioned above and suitable for welding with API 5L406.4 mm OD X60 bevel ended line pipe having wall thickness 6.4 mm, (R=6D where R is radius of bend and D is diameter of pipe)
6	B.6	350 MM(14") NB& 90 deg	47	Heat Shrinkable Sleeve coated long radius bend, 90 Deg. As perpara 2.2of code ASME B16.49 std. (latest edition) the wall thickness at theintrados should be minimum 1.045 times nominal wall thickness and wall thickness of the bend should uniformly vary from intrados toneutralaxis and wall thickness at the portion between neutral axis andextradosshould be minimum 0.9 times the nominal wall thickness. Bend shall be fabricated from line pipe 14" (350 mm) NB ERW/LSAW/HSAW,grade X-60,PSL-2 as per API 5L latest edition having following specification: 1. Pipe outside diameter: 355.6 mm 2. W/T suitable to achievethicknesstolerances mentioned above and suitable for welding with API 5L355.6mm OD X60 bevel ended line pipe having wall thickness 6.4 mm,(R=6D where R is radius of bend and D is diameter of pipe)
7	B.7	350 MM(14") NB& 60 deg	6	Heat Shrinkable Sleeve coated long radius bend, 60 Deg. As perpara 2.2of code ASME B16.49 std. (latest edition) the wall thickness at theintrados should be minimum 1.045 times nominal wall thickness and wallthickness of the bend should uniformly vary from intrados toneutralaxis and wall thickness at the portion between neutral axis andextradosshould be minimum 0.9 times the nominal wall thickness. Bendshall befabricated from line pipe 14" (350 mm) NB ERW/LSAW/HSAW,grade X-60,PSL-2 as per API 5L latest edition having following specification: 1. Pipe outside diameter: 355.6 mm 2. W/T suitable to achieve thickness tolerances mentioned above and suitable for welding with API 5L355.6mm OD X60 bevel ended line pipe having wall thickness 6.4 mm,(R=6D where R is radius of bend and D is diameter of pipe)
8	B.8	350 MM(14") NB& 45 deg	8	Heat Shrinkable Sleeve coated long radius bend, 45 Deg. As perpara 2.2of code ASME B16.49 std. (latest edition) the wall thickness at theintrados should be minimum 1.045 times nominal wall thickness and wallthickness of the bend should uniformly vary from intrados toneutralaxis and wall thickness at the portion between neutral axis andextradosshould be minimum 0.9 times the nominal wall thickness. Bendshall befabricated from line pipe 14" (350 mm) NB ERW/LSAW/HSAW,grade X-60,PSL-2 as per API 5L latest edition having following specification:  1. Pipe outside diameter: 355.6 mm 2. W/T suitable to achievethicknesstolerances mentioned above and suitable for welding with API 5L355.6mm OD X60 bevel ended line pipe having wall thickness 6.4 mm, (R=6D where R is radius of bend and D is diameter of pipe)

9	B.9	350 MM(14") NB&	20	Heat Shrinkable Sleeve coated long radius bend, 30 Deg. As perpara 2.2of code ASME B16.49 std.
	2.5	30 deg	20	(latest edition) the wall thickness at theintrados should be minimum 1.045 times nominal wall
				thickness and wall thickness of the bend should uniformly vary from intrados toneutralaxis and wall
				thickness at the portion between neutral axis andextradosshould be minimum 0.9 times the
				nominal wall thickness. Bendshall befabricated from line pipe 14" (350 mm) NB ERW/
				LSAW/HSAW,grade X-60,PSL-2 as per API 5L latest edition having following specification:
				1. Pipe outside diameter: 355.6 mm 2. W/T suitable to achieve thicknesstolerances mentioned
				above and suitable for welding with API 5L355.6mm OD X60 bevel ended line pipe having wall
				thickness 6.4 mm,(R=6D where R is radius of bend and D is diameter of pipe)
10	B.10	350 MM(14") NB&	32	Heat Shrinkable Sleeve coated long radius bend, 22.5 Deg. Asper para 2.2 of code ASME B16.49
		22.5 deg		std. (latest edition) the wall thickness attheintrados should be minimum 1.045 times nominal wall
				thicknessand wallthickness of the bend should uniformly vary from intrados toneutralaxis and wall
				thickness at the portion between neutral axis and extrados should be minimum 0.9 times the
				nominal wall thickness. Bendshall befabricated from line pipe 14" (350 mm) NB ERW/
				LSAW/HSAW,grade X-60,PSL-2 as per API 5L latest edition having following specification:
				1. Pipe outside diameter: 355.6 mm 2. W/T suitable to achievethicknesstolerances mentioned
				above and suitable for welding with API 5L355.6mm OD X60 bevel ended line pipe having wall
				thickness 6.4 mm,(R=6D where R is radius of bend and D is diameter of pipe)
11	B.11	200MM (8") NB&	77	Bend Bevel Ended Heat Shrinkable Sleeve coated Long Radius 90Deg. Fabricated from line pipe
		90 deg		200mm ,NB (8") diaERW/LSAW/HSAW, GradeAPI 5L X-46,PSL -2,W/T 6.4mm asper API 5L latest
				edition having following specification.
				i) Pipe Outside diameter 219.1 mm (8.5/4"):
				ii) Thickness:6.4mm
				iii) Test mill Pressure (Hydraulic): 140kg/sq cm
				iv) Deg of Bend: 90Deg Bend radius R=6D where R is the radius of the bend and D is the diameter
12	B.12	200MM (8") NB&	8	Bend Bevel Ended Heat Shrinkable Sleeve coated Long Radius 60Deg. Fabricated from line pipe
		60 deg		200mm ,NB (8" ) diaERW/LSAW/HSAW , GradeAPI 5L X-46,PSL -2,W/T 6.4mm asper API 5L latest
				edition having following specification.
				i) Pipe Outside diameter 219.1 mm
				ii) Thickness:6.4mm
				iii) Test mill Pressure (Hydraulic): 140kg/sq cm
				iv) Deg of Bend: 60Deg Bend radius R=6D where R is the radius of the bend and D is the diameter
13	B.13	200MM (8") NB&	20	BEND,45 DEG,NB 200MM, API 5L X-46Bend,Bevel EndedHeat Shrinkable Sleeve coated Long
		45 deg		Radius 45 DegreeFabricated from line pipe 150mm (6") NB diameter, ERW/LSAW/HSAWGradeAPI
				5L X-46,PSL -2W/T 6.4 mm as per API 5L latest edition having followingspecification
				i) Pipe Outside diameter 219.1mm (8.5/8")
				ii) Thickness:6.4mm
				iii) Test mill Pressure (Hydraulic):140kg/sq cm

				iv) Deg of Bend:45DegBend Radius R=6Dwhere R is the radiusof the bend and D is the diameter
14	B.14	200MM (8") NB& 30 deg	26	BEND,30 DEG,NB 200MM, API 5L X-46Bend,Bevel EndedHeat Shrinkable Sleeve coated Long Radius 30 DegreeFabricated from line pipe 200mm (8") NB diameter,ERW/LSAW/HSAWGradeAPI 5L X-46,PSL -2W/T 6.4 mm as per API 5L latest edition having followingspecification i) Pipe Outside diameter 219.1mm ii) Thickness: 6.4mm iii) Test mill Pressure (Hydraulic):140kg/sq cm iv) Deg of Bend: 30 DegBend Radius R=6Dwhere R is the radiusof the bend and D is the diameter
15	B.15	200MM (8") NB& 22.5 deg	54	BEND,22.5 DEG,NB 200MM, API 5L X-46Bend,Bevel EndedHeat Shrinkable Sleeve coated Long Radius 22.5 DegreeFabricated from line pipe 200mm (8") NB diameter,ERW/LSAW/HSAWGradeAPI 5L X-46,PSL -2W/T 6.4 mm as per API 5L latest edition having followingspecification i) Pipe Outside diameter 219.1mm ii) Thickness: 6.4mm iii) Test mill Pressure (Hydraulic):140kg/sq cm iv) Deg of Bend: 22.5 DegBend Radius R=6Dwhere R is the radiusof the bend and D is the diameter