



मेकॉन लिमिटेड (भारत सरकार का संस्थान) MECON LIMITED (A GOVT. OF INDIA ENTERPRISES)



13वां एवं 15वां तल, नार्थ टॉवर, स्कोप मीनार, लक्ष्मी नगर व्यवसायिक केन्द्र, दिल्ली-110092, (भारत)
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स्वीकृति का फैक्स / FAX OF ACCEPTANCE (FOA)

FOA NO. 05/51/Q7NT/GAIL/001-i-03/FOA-972

DATE: 14.08.2023

TO : M/S ADORN INFRA ENERGY PVT. LTD.
PHONE : +91- 0629 428 7165 ,9415292940
EMAIL : allskdubey@gmail.com, dubeyanoop111@gmail.com
ATTN : MR. SUNIL KR DUBEY, DIRECTOR
FROM : SR. GM (CONTRACTS), MECON LIMITED, DELHI

PLEASE REFER TO YOUR OFFER NO. NIL DTD. 01.06.2023 (NIC BID ID: 559793) AND ALL OTHER SUBSEQUENT CORRESPONDENCE AGAINST BIDDING DOCUMENT NO. 05/51/Q7NT/GAIL/001-I-03 DATED 15.05.2023 (NIC TENDER ID. 2023_GAIL_153715), REPLY TO PRE-BID QUERIES DATED 24.05.2023 & COMMERCIAL CORRIGENDUM #1 DATED 05.06.2023 FOR LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE CONTRACT (ARC)) FOR CGD PROJECT AT SIX GAS FOR GAIL (INDIA) LIMITED (.)

WE HEREBY ISSUE THIS FAX OF ACCEPTANCE (FOA) FOR AWARD FOR COMPLETE SCOPE OF WORK OF TENDER AT AN ESTIMATED CONTRACT VALUE OF RS. 4,44,98,322/- (INDIAN RUPEES FOUR CRORE FORTY-FOUR LAKHS NINETY-EIGHT THOUSAND THREE HUNDRED TWENTY-TWO ONLY) EXCL. GST. GST SHALL BE PAYABLE EXTRA AS PER TENDER PROVISIONS. (PRESENT RATE OF GST@18%).
THE DETAILED BREAKUP OF ABOVE ORDER VALUE IS ENCLOSED AS ANNEX-1(.)

THE COMPLETION PERIOD SHALL BE AS PER TENDER DOCUMENT(.)

PLEASE SUBMIT CONTRACT PERFORMANCE BANK GUARANTEE@ 10% OF ANNUALISED CONTRACT/ORDER VALUE [EXCLUDING GST] AS PER CL. NO. 38 OF ITB OR AS PER BDS (ANNEXURE-IV TO SECTION-III OF VOL I OF II) AND CONTRACT AGREEMENT AS PER CL. NO.37 OF ITB OF TENDER DOCUMENT (.)

YOU ARE REQUESTED TO CONTACT PROJECT COORDINATOR (MR. PRATEEK MAHESHWARI, MANAGER (CGD), MECON LIMITED, EMAIL ID: pmaheshwari@mecon.co.in) FOR FURTHER INSTRUCTIONS (.)

ALL OTHER TERMS AND CONDITIONS SHALL BE AS PER BIDDING DOCUMENT & CORRIGENDUM THERE OF AS STATED ABOVE AND AS AGREED TILL DATE (.)

A DETAILED ORDER SHALL FOLLOW (.)

FOR & ON BEHALF OF GAIL (INDIA) LIMITED
(BY ITS CONSTITUTED ATTORNEY)

राकेश शर्मा / RAKESH SHARMA

वरि. महाप्रबंधक (अनुबंध) / SR. GM (CONTRACTS)
मेकॉन लिमिटेड, दिल्ली / MECON LIMITED, DELHI

CC: BY COURIER TO:

M/s Adorn Infra Energy Pvt. Ltd.

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Annexure 1 to POA no. 05/51/Q7WT/GAIL/001-1-03/FOA-972 dtd. 14.08.23

SOR

LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
1	SECTION-A (HDD WORKS)					
2	PIPELINE STRING PREPARATION & THEIR PRE-TESTING FOR ALL TYPES OF CROSSINGS BY HDD METHOD Receiving and taking-over as defined in the specification, handling, loading, transportation and unloading of Owner supplied 3-Layer PE coated and bare linepipes from Owner's designated stock-yard to Contractor's stock yard/workshop/work-site and other Owner supplied materials from Owner's designated place(s) of issue/ dump site(s) to Contractor's own stock-yard(s)/ Work Shop(s)/ work-site(s) including stringing of line pipes on the desired alignment required for pulling of pipeline string during HDD operation, preparation of pipeline string of coated linepipe, associated fittings and accessories, etc. of following sizes given below, including executing all works; arrangement of all additional land required for Contractor's storage, fabrication, access for construction; supply of all materials (except Owner supplied materials), consumables, labour and other incidental works; return of the surplus pipes to the Owner's designated stockyard(s); carrying out all temporary, ancillary, auxiliary works required to make the pipeline ready for pulling / insertion by HDD method as per drawings, specifications, scope of work indicated in SCC and other provisions of Contract document and instructions of Owner, including but not limited to carrying out the following works:					
3						
4	Staking and installation of construction markers, clearing, fencing, grubbing, fulfilling all the requirements of various concerned statutory authorities to their entire satisfaction. Clearing & grading / cleaning of work area, shifting of all obstruction within the ROU/ pipeline corridor as per Pipeline route alignment viz. electrical lines/ poles, telephone line / poles, foreign pipeline/ utility cable, etc. Carryout liaisoning & co-ordination works (including Crossings) and obtaining / getting permission from these authorities and payment shall be made under SI No. : 120 (Item Code A001200) mentioned elsewhere in this SOR.					
5	Barricading the pipeline construction area prior to execution of the works as per drawings enclosed with tender document and to the entire satisfaction of Owner / Engineer-in-charge (EIC) / Resident construction manager (RCM).					
6	Carrying out repairs of pipe defects/ replacement in case of irreparable defects and repairs of defects of pipe coating not attributable to Owner including defects/ damages occurring during transportation/ handling after taking over from Owner by Contractor including management of their own dump site / yard, if required.					
7	Stringing of line pipes shall be kept / rested on straw/ sand/ soft soil bags (including supply) along the required alignment as per approved HDD profile. Additional space if required for string preparation and to keep pipeline string alignment in order shall be under contractor scope and included in this SOR items for all pipeline sizes.					
8	Checking, cleaning, aligning, bending, cutting and bevelling (as required) of pipes to carry out welding and field adjustments including pipe fittings/flanges/valves etc. and their welding, carrying out destructive / non-destructive testing of welds as required as per the specification including 100% radiography by X-ray either by internal source or by external source based on site conditions/front availability and in this regard decision of EIC/RCM shall be final and binding to the contractor (In case placement/installation of X-ray equipment is not feasible, in that case Gamma ray may be permitted as per decision of Engineer In-Charge(EIC)/RCM based on site conditions) and providing all requisite equipment, labour, supervision, materials, films, consumables, all facilities and personnel to process, develop, examine and interpret radiographs and other tests as required, carrying out repairs of weld joints found defective by Engineer-in-Charge (EIC) / RCM , carrying out re-radiography and other tests as required on repaired joints.					
9	Carrying out cleaning, gauging, water filling, pre-hydrotesting of complete pipeline string in one section/ test sections as approved by EIC/RCM to specified test pressures (i.e 1.5 times of Design pressure) for 4 hours hold period; providing all equipment, pumps, test headers, fittings, pressure & temperature instruments etc., and services, supervision, labour, consumables, water, air, etc. as required; detection of leaks, if any occurred during pre-hydrotesting, attributable to Contractor and rectification of defects, re-testing after rectification with due approval of Owner, successful completion of pre-hydrotesting including dewatering of pipeline to acceptance criteria defined in the specifications. Supply of required quantity of corrosion inhibitor, if required for pre-testing of designated sections complete as per specification and approved by Engineer-in-charge (EIC)/ RCM. Note : 1. Leak detection, its rectification and successfully re-hydrotesting shall be carried out by Contractor with a view that completion of all activity for successful pre-hydrotesting should not be inordinately extended / delayed , which will hamper the overall project schedule. Further, no extra payment claim shall be entertained for re-hydrotesting, leak detection and their rectifications if defects found attributable to Contractor. 2. Payment for Gauging activity mentioned above shall be made under SI. no. 97 (Item Code A00700) mentioned elsewhere in this SOR.					

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Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
10	Application of coating material on field joints of pipeline string after successful pre- hydrotest. Field joint coating material shall be supplied of special type "Dirax" or equivalent Heat Shrink Sleeve along with supply of special type coating repair patch material PERP -60E or equivalent compatible with 3-Layer PE coating as per tender/technical specifications with prior approval of EIC/RCM.					
11	Digging of Entry and exit pit for carrying out HDD as per the instruction of EIC/GAIL GA incharge					
12	Final clean-up and restoration of additional land / right of use / corridor including obtaining NOC from respective land owners & statutory authorities if required, and disposal of debris and returning of surplus material to Owner's designated disposal area(s)/ stockyard(s) as directed by Owner/EIC/RCM.					
13	Preparation of pipe-book and other records as specified in the specifications					
14	Line pipe details					
15	Specified dia (mm) NB					
16	100 6.4 API 5L Gr. X-52 3 Layer PE Double random Coating (Externally) (approx. 11.5 m to 12.5 m)	2700	Mtr	2,450	6,615,000	AHR
17	NOTE:-					
18	(i) The quantities mentioned against the above SOR items are tentative and may vary depending upon the site condition during execution stage.					
19	(ii) The total quantities mentioned against the above SOR items are for multiple/ various crossings at different location within GA.					
20	(iii) Payment for above item no. shall be made only for the approved pipeline string length for HDD.					
21	(iv) Payment for Gauging activity mentioned above shall be made under item mentioned elsewhere in this SOR.					
22	GEOTECHNICAL INVESTIGATION, HYDROGRAPHICAL & HYDROLOGICAL SURVEY OF RIVER/ CANAL/ NALA/ WATERBODIES					
23	Carrying out Pre-construction survey and detail survey for crossings after liaisoning & coordination from concerned authority. Detail survey includes minimum but not limited to carrying out complete Geotechnical Investigation (including all laboratory test & field test) , Hydrographical & Hydrological Survey of River / Canal/Nala/Waterbodies for the purpose of crossing the River / Canal/Nala/Waterbodies by HDD method including obtaining work permit / NOC from concerned authority complete in all respect as per Scope of Work & Technical Specification and instruction of Engineer-in-Charge (EIC)/RCM and submitting Final Report & Drawing (along with soft copy) incorporating all field and laboratory data, Drawings, Maps, Data etc. (One Lot) in an approved format with full scale for Soil Investigation, Scour Depth etc. in accordance with the Technical Specification, Drawings, approved QAP, implementation schedule and other provisions of the Tender Document and instructions of the Engineer-in-charge (EIC)/RCM. NOTE: Payment for carrying out liaisoning & co-ordination works for Crossings and obtaining permission / NOC from these authorities shall be made under item mentioned elsewhere in this SOR.					
24	For road/rail crossings, pre-construction survey based on site visit, topographical survey, geotechnical investigation to establish bed strata upto sufficient depth, collection of data (if required) from concerned Authority including design and detail engineering and making of HDD Profile drawings for crossing and getting their approval from concerned Authority/ Engineer-in-charge including carrying out liaisoning & co-ordination works and obtaining permission / NOC from these authorities for the crossing as well as utility/foreign pipeline crossings (if any) prior to start the execution of work. NOTE: Payment for carrying out liaisoning & co-ordination works for crossings as well as utility/foreign pipeline crossings (if any) and obtaining permission / NOC from these authorities shall be made under item mentioned elsewhere in this SOR.					
25	GEOTECHNICAL INVESTIGATION, HYDROGRAPHICAL & HYDROLOGICAL SURVEY OF RIVER/ CANAL/ NALA/ WATERBODIES					
26	Crossing of NALA/WATERBODIES in multiple stretch / shot (Size 4" NB) in East Singhbhum (Jamshedpur/ Ranchi GA) - (Measurement will be carried out on the basis of individual crossing profile width and payment will be done accordingly)	250	Mtr	400	100,000	
27	Crossing of RIVER/CANAL in multiple stretch / shot (Size4" NB) in East Singhbhum(Jamshedpur/ Ranchi GA) (Measurement will be carried out on the basis of individual crossing profile width and payment will be done accordingly)	250	Mtr	400	100,000	
28	GEOTECHNICAL INVESTIGATION & CROSSING SURVEY OF RAILWAY / ROAD/CULVERT CROSSING					
29	Crossing of Road/Railway/Culvert in multiple stretch / shot (Size 4" NB) in East Singhbhum (Jamshedpur/ Ranchi GA) (Measurement will be carried out on the basis of individual crossing Profile width and payment will be done accordingly)	250	Mtr	400	100,000	
30	Note : (i) For Nala/Water Bodies/River/Canal etc Bidder/contractor have to execute Geo-technical, hydrological & hygraphical survey as per technical specification and direction of EIC ii)for railway/ road/Culvert crossings contractor have to execute geotechnical & crossing survey as per technical specification and direction of EIC.					

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Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
31	(iii) For geotechnical survey/investigation: 1. For River/Canal - Two Nos Bore holes each at both banks of depth 15 meter and in river bed bore holes of depth 25 m at a distance of 75 meter centre to centre.					
32	2. For Nala/Other Water Body Crossings..etc - One No Bore holes each at both banks of depth 15 meter and on bed bore holes of depth 15 m at a distance of 75 meter centre to centre.					
33	3. For Railway Crossings/Road/Culvert Crossings ..etc - One No Bore holes each at both sides of depth 10 meter.					
34	4.Laboratory test & field test shall be as per technical specification & tender documents.					
35	5. Bank width for Canal/Nala/other water body crossings and survey length for railway crossings/road etc will be as per site conditions. Survey has to be done of bank width/survey width and minimum 50 meter at both end expect at river Crossings. For River crossing survey has to be done of bank width and minimum 100 meter at both end.					
36	6. Rock shall be considered at location at which the core recovery is min 25%.					
37	7. Quantity indicative above is tentative and for multiple crossings of size 8"/6"& 4" NB dia pipeline with in the GA.					
38	HDD CROSSING FOR RIVER /NALA / CANAL / ANY OTHER WATER BODIES/ RAIL / ROAD CROSSING/ ANY OTHER CROSSING					
39	Complete work for installation/pulling/insertion of pre tested and field joint coated carrier pipeline across the crossings (between the ROW limits as per approved HDD profile drawing of crossings) by HDD method including mobilization of HDD machine/rig along with adequate size and diameter of drilling rods, cutting tools etc. of suitable capacity and other associated machineries/equipments/materials required for hindrance free and smooth pulling/insertion of pre tested and field joint coated carrier pipeline across the crossings. Supply of all Contractor supplied material including consumables, experienced manpowers, equipments/machineries, other resources etc. to work site(s) and additional land / space required for placement of HDD rig/machine along with other associated equipments/machineries, materials etc to complete the crossing works. Execution of, but not limited to, following works in accordance with specifications and instruction of Engineer-in-charge and as per all provision of Contract Document.					
40	Carrying out Pre-construction survey and detail survey for river/water bodies crossings to establish bed strata upto sufficient depth, collection of data (if required) from concerned Authority.Carrying out design and detail engineering and making of HDD Profile drawings for crossing and getting their approval from concerned Authority/ Engineer-in-charge including utility/foreign pipeline crossings (if any) prior to start of work.Carrying out liaisoning & co-ordination works for crossings as well as utility/foreign pipeline crossings (if any) and obtaining work permit/ NOC from concerned Authority prior to start the execution of work. Assistance in ROU opening & closing and their maintenance/ management both side of the crossings.					
41	For road/rail crossings, carrying out pre-construction survey based on site visit, topographical survey, geotechnical investigation to establish bed strata upto sufficient depth, collection of data (if required) from concerned Authority including design and detail engineering and making of HDD Profile drawings for crossing and getting their approval from concerned Authority/ Engineer-in-charge including carrying out liaisoning & co-ordination works for crossings as well as utility/foreign pipeline crossings (if any) and obtaining work permit/ NOC from concerned Authority prior to start the execution of work. Assistance in ROU opening & closing and their maintenance/ management both side of the crossings.					
42	Carrying out complete work for installation/pulling/insertion of pre tested and field joint coated carrier pipeline across the crossings (between the ROW limits as per approved HDD profile drawing of crossings) by HDD method.Including digging of entry & exit pit as per requirement of work and design criteria.					
43	For waterbodies/river crossings: Drilling to the required depth on the banks and bed including maintenance of drill hole in all types of strata, all depth to accommodate the pipeline and HDPE duct at all conditions of the crossings as per approved HDD profile and providing minimum cover specified in code/specification or the actual depth as decided by concerned authority, whichever is more.					



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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGBHIUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
44	In case of Crossing of Nala/ Waterbody/River/Canal minimum cover shall be - (i) 1.5m below the scour level / profile for river and 1.5m below the available lowest bed level of water bodies, duly approved/ accepted by concerned authority (under whose jurisdictions the crossing lies)---- For rivers/Canal/Nala/waterbodies/ with rocky (Hard/soft) bed / strata. . or (ii) 2.5m below the scour level / profile for river and 2.5m below the available lowest bed level of water bodies, duly approved/ accepted by concerned authority (under whose jurisdictions the crossing lies)---- For rivers/Canal/Nala/waterbodies/ with rocky (Hard/soft) bed / strata. . or (iii) 1.5m below the available lowest bed level / profile, duly approved/ accepted by concerned authority (under whose jurisdictions the crossing lies)---- For minor waterbodies crossings (i.e. bank to bank width less than or equal to 7.5 meter). and (iv) In addition to point (i) & (ii), In case of multiple combined X-ing i.e. river alongwith road/ drain, minimum cover requirement as per specification/ concerned authority for each type of x-ing has also to be fulfilled. For rail/road/culvert crossings: Drilling to required depth from top of rail/road/culvert including maintenance of drill hole in all types of strata, all depth to accommodate the pipeline & HDPE duct at all conditions of the crossings as per approved HDD profile and providing minimum cover specified in code/specification or the actual depth as decided by concerned authority, whichever is more.					
45	Installation of the proposed pipeline below the crossing bed by HDD method to the correct profile as per approved drawings.					
46	Carrying out cleaning, piling, gauging and post installation hydrostatic testing of complete pipeline section laid by HDD method as approved by EIC/RCM to specified pressures (i.e. 1.5 times of the design pressure) for 24 hours holding period. The detail work description for post installation hydrostatic testing activities are mentioned in Sl. no. 101 (Item Code A00800), however gauging activity shall be carried out as per detail mentioned in Sl. no. 97 (Item Code A00700). Payment for Gauging activity & post installation hydrostatic testing activity shall be made separately under Sl. no. 97 (Item Code A00700) & Sl. no. 101 (Item Code A00800) respectively mentioned elsewhere in this SOR.					
48	Backfilling of the ditch / trench including restoration, clean-up of area, disposal of drilling fluid & waste, etc. to the designated place with entire satisfaction of EIC/RCM/ Concerned Authority and getting NOC from concerned authority.					
49	Preparation and submission of as built drawings & other drawings/documents, etc. duly approved by EIC/RCM.					
50	Laying of the carrier pipeline and 02 / 01 nos. HDPE duct (for both water body and elevated road / RAIL/ Structure crossing) by the approved HDD method across the crossing as per decision of the EIC/RCM based on the site condition and requirement of the concerned authority. In this regard decision of the EIC/RCM shall be final and binding to the contractor.					
51	Crossing of NALA/WATER BODIES etc					
52	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in NORMAL SOIL/HARD SOIL STRATA	200	Mtr	3,450	690,000	
53	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in METAL SLAG/SLAG LUMP STRATA	300	Mtr	4,450	1,335,000	
54	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in any type of ROCKY STRATA including Soft/Hard rock	300	Mtr	8,500	2,550,000	
55	Note: (i) Quantity indicated above against each item is tentative and for multiple crossings for Nala/Water Bodies crossing. It may increase/decrease as per site condition and approved survey details. (ii) Quantity mentioned against above items rate are breakup for different type of bed strata may encountered in NALA/Water Bodies crossing which is to be crossed in a single stretch and payment shall be made based on approved strata length drilled by the contractor.					
56	Crossing of River/Canal etc					
57	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in NORMAL SOIL/HARD SOIL STRATA	150	Mtr	3,450	517,500	
58	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in METAL SLAG/SLAG LUMP STRATA	300	Mtr	4,450	1,335,000	
59	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in any type of ROCKY STRATA including Soft/Hard rock	400	Mtr	8,500	3,400,000	

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SOR

LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
60	Note: (i) Quantity indicated above against each item is tentative and for multiple crossings for River/Canal Bodies crossing. It may increase/decrease as per site condition and approved survey details. (ii) Quantity mentioned against above items rate are breakup for different type of bed strata may encountered in River/Canal crossing which is to be crossed in a single stretch and payment shall be made based on approved strata length drilled by the contractor.					
61	Crossing of Road/Railway/Culvert..etc					
62	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in NORMAL SOIL/HARD SOIL STRATA	250	Mtr	3,450	862,500	
63	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in METAL SLAG/SLAG LUMP STRATA	350	Mtr	4,450	1,557,500	
64	Crossings for carrier pipeline of size 100 mm NB x 6.4mm Thk. of API 5L Grade X-52 in any type of ROCKY STRATA including Soft/Hard rock	450	Mtr	8,500	3,825,000	
65	Note: (i) Quantity indicated above against each item is tentative and for multiple crossings for Railway/Road/Culvert..etc crossing. It may increase/decrease as per site condition and approved survey details. (ii) Quantity mentioned against above items rate are breakup for different type of bed strata may encountered in Road/Railway/Culvert crossing which is to be crossed in a single stretch and payment shall be made based on approved strata length drilled by the contractor.					
66	NOTES FOR SL. No. 38 (Item No.: A00300)					
67	(i) Crossing width may vary as per site conditions. Bidder/Contractor/Tenderer are advised to visit the site for actual assessment of extent of crossing and to assess the maximum extent of cover which may have to be provided. Actual string length for HDD shall be as per design calculations so that pipe is not under stress as permitted by codes/ specifications. Final length of string shall be decided after decision of minimum cover requirement by concerned Authority/ Engineer-in-charge (EIC)/RCM.					
68	(ii) Payment for the hook-up of final tied-in carrier pipeline string to existing pipeline (if required) shall be made separately under SI no. 113 (Item Code A001000) mentioned elsewhere in the SOR.					
69	(iii) Rate for providing end cap / blind (if required) at both the ends for carrier pipeline					
70	(iv) Insertion / Pulling of 01 no/02 nos of HDPE duct (as applicable in relevant SOR) and their blinding/plugging shall be in the scope of contractor and the rate for pulling is NOT included in above quoted rates. If required/Instructed by EIC/GAIL GA Incharge then it will be paid separately under relevant SOR mentioned elsewhere. Supply of HDPE duct and OFC shall be in the scope of GAIL/Client.					
71	(vi) HDD crossing of carrier pipe as well as 40 mm OFC Duct(one or two as per the instruction of EIC/GAIL GA Incharge) shall be carried out by suitably strapping together both the carrier pipe & OFC Duct and pulled together in the same drill hole at site and as per the decision of EIC/RCM, Separate payment for HDD for HDPE duct shall be paid under relevant item elsewhere in SOR.					
72	(vi) Length of the individual crossing may increase or decrease depending upon site condition / requirement , accordingly contractor shall deploy suitable or higher capacity of HDD rig at site as per the decision of EIC/RCM/GAIL GA Incharge to complete the crossing work successfully. No extra payment shall be made to contractor for deployment of higher capacity of rig.					
73	(vii) Contractor shall not perform any pipeline and crossing related activities along the ROU without specified barricading/permission of EIC/RCM/GAIL GA Incharge as per Std. Drg. and other safety measures.					
74	(viii) The above items rate shall be applicable for all locations / region/ charge area within & around the GA of East Singhbhum(Jamsedhpur)/Ranchi.					
75	(ix) The work related to all type of survey mentioned above are covered in SI. No. 22 (Item Code A00200) and payment shall be made under SI. No. 22.					
76	x) Payment for carrying out lashing & co-ordination works for crossings as well as utility/foreign pipeline crossings (if any) and obtaining permission / NOC from these authorities including assistance in ROU opening & closing and their maintenance/ management both side of the crossings shall be made under SI no. 120 (Item Code A001200) mentioned elsewhere in this SOR.					
77	(xi) Arrangement of all additional land required for construction, Pulling etc is in scope of contractor and no additional payment for the same shall be made.					
78	(xii) Quantity mention against each SOR item is for multiple crossing at various location with in the GA of East Singhbhum (Jamsedhpur)/Ranchi,however maximum length of the single crossing shall not exceed 1000 meters.					
79	(Xiii) Digging of Entry and exit pit for carrying out HDD as per the instruction of EIC/GAIL GA Incharge					
80	REPAIR OF DEFECT IN PIPES (NOT ATTRIBUTED TO CONTRACTOR)					

SOR

LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
81	Repair of defects on Owner supplied linepipes of all grades and wall thickness as specified in following items, noted and recorded at the time of "receiving and taking over" by Contractor in the presence of Engineer-in-charge (EIC)/RCM					
82	Cutting and rebeveling for dents in bevels exceeding 3 mm in depth for pipe sizes:					
83	Specified OD. mm					
84	114.3	1	Nos.	6,700	6,700	AHR
85	Jack out of dents in bevels ranging between 1 mm and 3 mm in depth for pipe sizes:					
86	Specified OD. mm					
87	114.3	1	Nos.	6,900	6,900	AHR
88	REPAIR OF COATING DEFECTS (NOT ATTRIBUTED TO CONTRACTOR)					
89	Repair of Holiday in Coating (Noted and recorded at the time of "receiving and taking over")					
90	Supply of all coating repair materials as per requirements of specification to be compatible with line pipe coating material, supply of all consumables, utilities, equipments and all manpower required, pipe cleaning and surface preparation, repairing of coating defects (resulting in holiday) and testing including all handling, transportation, etc. for line pipes, performing all works necessary for the completion of the works strictly in accordance with relevant specification and instructions of Engineer-in-Charge (EIC)/RCM. This rate shall be applicable per sq. cm of the exposed steel area.	25	Sq. Cm	204	5,100	
91	LEAK / BURST (ATTRIBUTABLE TO OWNER)					
92	All works for locating leak / burst in Company's supplied material only (occurred during hydro-static testing) including necessary repairing/replacing defective pipe lengths including cutting and out and removing the defective pipe, pre-testing and welding of replacement pipe, NDT of welds, repair and retesting of defective welds, coating/painting of replacement pipe, pretesting the replacement pipe into mainline/branch line, coating/painting of welding joints, cleanup, retesting including cost of all labour materials, consumables and performing all works in accordance with the provisions of the Contract document and as directed by Owner /Engineer-in-charge (EIC)/RCM.					
93	For 4" NB Line	1	Each	6,790	6,790	
94	Note:					
95	This rate is applicable for manufacturing defects in Owner supplied material only.					
96	Leak detection, its rectification and successfully re-hydrotesting shall be carried out as per approved procedure by Contractor with a view that completion of all activity for successful hydrotesting is not inordinately extended which will hamper the overall project schedule.					
97	GAUGING (APPLICABLE FOR PRE & POST INSTALLATION HYDROSTATIC TEST) (APPLICABLE FOR STANDALONE CROSSING)					
98	As per specification and procedure approved by Engineer-in-charge (EIC)/ RCM.					
99	100 6.4 API 5L Gr. X-52 3 Layer PE Double random Coating (Externally) (approx. 11.5 m to 12.5 m)	2700	Mtr	45	121,500	
100	NOTE- (i) The quantities mentioned against the above SOR items are tentative and may vary depending upon the site condition during execution stage. (ii) The total quantities mentioned against the above SOR items are for multiple/various crossings at different location within GA . (iii) Payment for above item no. shall be made only for the approved pipeline string length for HDD. (iv) The requirement of gauging before prehydrotest & after pulling of HDD section shall be carried out as per MECON specification / OISD / PNGRB and same shall be approved by Engineer-in-charge (EIC)/ RCM.					
101	POST INSTALLATION HYDROSTATIC TESTING OF PIPELINE (APPLICABLE FOR STANDALONE CROSSING)					
102	Carrying out cleaning, gauging, pigging and post installation hydrostatic testing of complete pipeline section laid by HDD method as approved by EIC/RCM to specified pressures (i.e. 1.5 times of the design pressure) for 24 hours holding period; providing all equipment, pumps, test headers, fittings, instruments, dead weight tester, pressure recorder, temperature recorder , pressure & temperature gauge etc., and services, supervision, labour, consumables, water including supply of corrosion inhibitor, air, etc. as required for successful completion of hydrotesting of pipeline to acceptance criteria as per specifications, codes, approved drawings, calculations, methods and as directed by Engineer-in-charge and provision of contract document. Complete dewatering and swabbing of the pipeline as per specification and to the entire satisfaction of the EIC/RCM.					
103	Hydrotesting at the Crossing of NALA/Water Bodies/River/Canal/Road/Railways etc (Size 4" NB)	2700	Mtr	67	180,900	

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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
	Notes: i) The quantities mentioned against the above SOR items are tentative and may vary depending upon the site condition during execution stage. ii) Payment for Gauging activity mentioned above shall be made under SI no. 97 (Item Code A00700) mentioned elsewhere in this SOR. iii) Quantity indicated above against each item is tentative and for multiple crossings . It may increase/decrease as per site condition and approved survey details.					
104						
105	PRESERVATION OF PIPELINE (APPLICABLE FOR STANDALONE CROSSING)					
106	Preservation of pipeline sections and associated facilities (in event of delay in ROU acquisition, commissioning, other unforeseen reasons) including supply of nitrogen, all consumables, all equipment, man-power, etc. complete as per the requirements of specifications, other provisions of Contract document and instructions of Engineer-in-charge (EIC/RCM).					
107	By filling and pressurizing with nitrogen to a pressure of 2 bar(g) for a period of one month.					
108	Crossing of NALA/Water Bodies/River/Canal/Road/Railways etc (Size 4" NB)					
109	For every additional period of one month or part thereof					
110	Crossing of NALA/Water Bodies/River/Canal/Road/Railways etc (Size 4" NB)	2700	Mtr	56	151,200	AHR
	Notes: i) All accessories i.e., required nos. of dished end caps and tapings of 3/4 inches, PG to be considered per section and the rates are inclusive in above item rate. ii) If month is partially complete, payment shall be made on prorata basis.	2700	Mtr	56	151,200	AHR
111						
112	iii) Quantity mention against each SOR item is for multiple crossing at various location with in the GA, however maximum length of the single crossing shall not exceed 1000.					
113	FINAL HOOK-UP / TIE-IN WELDING OF CARRIER PIPELINE LAID BY HDD METHOD WITH EXISTING PIPELINE AT BOTH THE ENDS (APPLICABLE FOR STANDALONE CROSSING)					
114	Hookup / Tie-in welding of carrier pipeline laid by HDD method with existing pipeline at both the ends as per welding description mentioned in SI no. 2 (Item Code A00100)					
115	Crossing of NALA/Water Bodies/River/Canal/Road/Railways etc (Size 4"NB)	150	inch	6,700	1,005,000	AHR
116	Notes: i) Hook -up work with existing pipeline on both side of HDD crossings. ii) Quantity mentioned against above items rate are tentative & may vary depending upon site condition. iii) NDT by X-Ray/Gamma Ray for hook-up Joints including application of joint coating sleeve & backfilling, restoration, etc as per specification is part of above item . Bidder have to quote accordingly.					
117	VIDEOGRAPHY & PHOTOGRAPHY (APPLICABLE FOR STANDALONE CROSSING)					
118	Carrying out the videography and photography of all the HDD construction activities i.e. Stringing, Welding, Radiography, Pre hydrotesting, Joint Coating, all HDD activities, post hydrotesting, restoration etc performing all works as per specification of EIC/RCM and other provision of contract document.					
119	Crossing of NALA/Water Bodies/River/Canal/Road/Railways etc (Size 4"NB)(Payment will be made on per crossing basis)	1	Each	115,890	115,890	AHR
120	PIPELINE LAYING LIAISONING & CO-ORDINATION FOR ALL TYPE OF CROSSINGS INCLUDING UTILITY CROSSING AND OBTAINING PERMISSION / NOC FROM THE STATUATORY / CONCERNED AUTHORITIES. ASSISTANCE IN ROU OPENING & CLOSING AND THEIR MAINTENANCE/ MANAGEMENT. (APPLICABLE FOR STANDALONE CROSSING)					
121	Submitting request for (after obtaining the letter from client) permission , follow up , assisting in site inspections / route survey / site report making/making site inspection drawings , submitting at designated offices , resubmission after correction , modification if required , soft and hard copy in nos. as required /if required in sizes , and collecting permission from the statutory authorities including NHAI , PWD , Railways , Irrigation , Forest , Municipal Corporation, District administration, River Authority, SEZ etc. Obtaining work permits /NOC from various statutory authorities having jurisdiction before execution of the work and complying with all stipulations /conditions/recommendations of the said authorities. Only statutory fees shall be paid by the owner. Assistance in required length and width/restricted width of ROU opening & closing and their maintenance/ management both side of the crossings.					
122	Crossing of NALA/Water Bodies/River/Canal/Road/Railways etc (Size 4"NB) in Jamshedpur/ Ranchi GA (Payment will be made on per crossing basis)	1	Each	260,000	260,000	AHR

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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
123	Sub-Total Section A					
124	SECTION-B [MAINLINE WORKS]					
125	CARBON STEEL PIPES					
126	PIPELINE LAYING / INSTALLATION					
127	"Receiving and taking over" as defined in the specifications, handling, loading, transportation and unloading of Owner supplied 3-Layer PE coated and bare linepipes from Owner's designated stock-yard to Contractor's stock yard/ workshop/ work-site including preliminary activities, preparation of drawings, wherever required for crossing etc. including handling, stacking, stringing on the pipeline Right-of-Use/ pipeline route alignment, carrying out inspection of company supplied materials including linepipes at the time of taking over, laying/ installation of coated linepipes as per specification wherever required depending on site condition including execution of all works, "taking over", handling , including loading and unloading, transportation of Owner supplied materials other than linepipe from Owner's designated place (s) of issue to work site, arrangement of all additional lands required for Contractor's storage, fabrication, access for construction, procurement and supply of all materials (except Owner supplied materials), consumables, equipment, labour and other inputs, carrying out all temporary, ancillary, auxiliary works, ready for commissioning of pipeline as per drawings, specifications, other provisions of Contract document and instructions of Engineer-in-charge, including but not limited to carrying out the following works:					
128	Surveying of route and detours required at the time of execution including marking the same in topographical sheet, preparation of construction drawings showing survey details, and submit same to Owner for review / approval.					
129	Staking and installation of construction markers, clearing, fencing, grubbing, fulfilling all the requirements of various statutory/ environment authorities to the entire satisfaction of concerned authorities, grading / cleaning of work area. Shifting of all obstruction within the ROU/ pipeline corridor as per Pipeline route alignment viz. electrical lines/ poles, telephone line / poles, foreign pipeline, etc. co-ordination with concerned authorities and obtain permissions from these authorities.					
130	Barricading the pipeline construction area prior to execution of the works as per drawings enclosed with tender document and to the entire satisfaction of Owner / Engineer-in-Charge.					
131	Trenching to all depths and to a width in all type of soil strata including any type of rocky strata to accommodate the pipeline and/or optical fiber cable/cable duct during lowering & backfilling as specified in scope document and as per the relevant standards, specifications, etc by excavation in all types of soils providing depth of padding in trench bed & above and around the pipeline HDPE duct and OFC as required with sand / graded earth approved by Engineer-in Charge. Dewatering of trenches if required as per site condition. Padding & Backfilling of the trench after lowering the pipeline.					
132	Carrying out repairs of pipe defects/ replacement in case of irreparable defects and repairs of defects of pipe coating not attributable to Owner including defects/ damages occurring during transportation/ handling after taking over from Owner by Contractor including management of their own dump site, if required Thorough internal cleaning of all pipes by suitable methods to remove debris, shots, grits etc. to the satisfaction of Engineer-in- Charge;					
133	Stringing of line pipes along pipeline trench / ROU provided on sand/soft soil bags including all supplies, manpower & machinery etc.					
134	Aligning, bending, cutting and bevelling (as required) of pipes for welding and field adjustments including pipe fittings, welding, carrying out non-destructive testing of welds as required including 100% radiography by X-ray either by internal source or external source based on site conditions/front availability and in this regard decision of EIC shall be final and binding to the contractor (In case placement/installation of X-ray equipment is not feasible, in that case Gamma ray may be permitted as per decision of Engineer In-Charge (EIC) based on site conditions) and providing all requisite equipment, labour, supervision, materials, films, consumables, all facilities and personnel to process, develop, examine and interpret radiographs and other tests as required, carrying out repairs of weld joints found defective by Engineer-in-Charge, carrying out re-radiography and other tests as required on repaired joints and NDT of rebevelled area as mentioned in SCC & Particular Jobs Specification					
135	Installation of carrier pipe at all crossings including roads/ cartrack / pathway / drain / canals/ mala/ water crossings etc. by open cut after prehydrotest of the section, if required, including re-storage of the banks to original conditions (in case of waterbody crossings) duly accepted by Competent Authority as defined as per specification (except crossings by HDD method, cased crossing, open cut convention method that are specifically covered separately elsewhere in the SOR).					
136	Coating of field weld joints, long radius bends (R=3D), elbows, buried fittings and valves etc. including supply of coating materials etc. (i.e. heat shrinkable sleeves and high build epoxy etc.) as per PJS & Technical Specification compatible with 3 layer PE coating of the line pipe. Coating materials shall be supplied with prior approval of Engineer-in-charge.					



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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
137	Supply of LR Bend (R=3D) of material equivalent to pipe material grade (API 5L Grade X-52 to X-56) and of all size, all thickness, all angle etc. suitable to connect / fit with intended steel pipeline to be laid, as per specification and their complete installation with steel pipeline network of all size & thickness as per specification wherever required depending on site condition.					
138	Installation / lowering the pipeline in trench to required depth as per PJS, Technical Specification & drawings including laying of HDPE duct and providing required padding over and around the pipeline with sand/graded material approved by Engineer-in-Charge (in rocky areas) including padding around pipeline with suitable soil duly approved by EIC. Supply of padding material, backfilling and its compaction to the satisfaction of concerned authorities with excavated earth / borrowed select soil including supply of borrowed select soil duly approved by EIC before backfilling and make ready for restoration to be done by Owner / concerned authorities.					
139	Installation of warning tape / mat on the entire length of the pipeline as per specification. Warning tape/mat should have anti rodent properties.					
140	Taking DGPS coordinates of each weld joint (including tie in joints) and including the same in field inspection report. The coordinate must have X,Y,Z (ground level) along with depth of cover.					
141	Supply and installation of slope breakers, wherever required or, as directed by Owner / Engineer-in-Charge.					
142	Crossing of all-foreign pipeline / HT line / cable / any other utilities etc. with necessary concrete / PVC protection including coordination with all agencies and obtaining NOC.					
143	Installation of bank protection & associated works along with supply of all types of backfill materials etc. duly approved by EIC for pipeline trench and banks falls under minor water body crossing as per technical specification & Std. Drg., wherever required or, as directed by Owner / EIC.					
144	Training and diversions of streams in steep slope area, wherever required.					
145	Carrying out air cleaning, gauging, pigging, flushing, cleaning and hydrostatic testing of complete pipeline, supply of required quantity of corrosion inhibitor, if required including pre-testing of designated sections complete as per specification and approved by Engineer-in-charge to specified pressures indicated elsewhere and duration after stabilization as per specification, providing all equipment, pumps, fittings, instruments, dead weight tester, pressure recorder, thermocouples etc., and services, supervision, labour, consumables, water including supply of corrosion inhibitor, air, etc. as required, locating of leaks and rectification of defect attributable to Contractor (rectification of defects in linepipe material not attributable to contractor shall be paid separately as per other item of schedule of rate), re-testing after rectification, dewatering after successful completion of hydrotesting of entire section and as approved by Engineer-in-Charge. Note : 1. Leak detection, its rectification and successfully re-hydrotesting shall be carried out by Contractor with a view that completion of all activity for successful hydrotesting should not be inordinately extended / delayed , which will hamper the overall project schedule. Further, no extra payment claim shall be entertained for re-hydrotesting, leak detection and their rectifications if defects found attributable to Contractor. 2. Payment for hydrostatic testing activity mentioned above shall be made under Sl. no. 220 (Item Code B001100) mentioned elsewhere in this SOR. 3. Payment for Gauging activity mentioned above shall be made under Sl. no. 216 (Item Code B001000) mentioned elsewhere in this SOR.					
146	All tie-in, including the tie-in(s) of the pipeline with the adjacent sections of pipeline including cutting of test header, rebeveling as required, radiography and other NDT examination, joint coating as per specification.					
147	Final clean-up & restoration of right-of-use or area disturbed by contractor including obtaining NOC from respective land owner and statutory authorities during their construction activities for laying of pipeline works and disposal of debris and returning all surplus material to designated disposal areas / storage yard as and backfilling of trench and compaction of the same as per satisfaction of Owner and / Or as directed by Engineer-in-charge.					
148	Carrying out all temporary, ancillary, auxiliary works and all incidental works required to make the pipeline ready for pre-commissioning.					
149	Installation of Sectionalizing Valves, Tap Off and other fittings along the pipeline within pit/without pit will be included in this SOR Rates(This is treated as under ground work along the pipeline at that level)					
150	Hook-up work with existing pipelines.					
151	Obtaining work permits/ NOC from various statutory authorities having jurisdiction, before and after execution of the work, and complying with all stipulation/conditions/recommendation of the said authorities.					
152	Preparation of as-built drawings, pipe-book and other records as specified in the specifications. SOR shall be read in conjunction with job specific requirements, specifications, standards, drawings and other provision of contract document. All above works related to line pipe laying and installation for buried pipeline are as per following details given below:					

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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description					Qty.	Units	ADORN		AHR Items
	Specified dia (mm) NB	Thk (mm)	Material	Coating Type	Length of each pipe			Unit Rate Excl.	Amount Excl. GST (in INR)	
153	Installation of Coated Line Pipes as per following details:									
154	100	6.4	API 5L Gr. X-52	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)					
155	100	6.4	API 5L Gr. X-52	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)	750	Mtr	1,460	1,095,000	
156	100	6.4	API 5L Gr. X-52	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)	1200	Mtr	1,460	1,752,000	
157	100	6.4	API 5L Gr. X-52	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)	800	Mtr	1,460	1,168,000	
158	Notes : 1. This item rate is applicable for complete work of laying of underground pipelines as per Schematic Route Diagrams/route sketch including installation of aboveground station approach pipeline upto insulating joint. The lengths of pipelines are tentative and may vary depending upon site conditions. 2. Rate for laying of OFC & duct shall be quoted in relevant Schedule of Rates (SOR) of Telecom works, hence not to be included in Pipeline Laying works. Supply of HDPE duct and OFC shall be in the scope of GAIL/Client. 3. The above item rate is exclusive of crossings by HDD, (which are covered separately in relevant SOR items). For other crossings, it is deemed to be inclusive in above item rate. 4. The above rate shall be exclusive of hydrotesting of complete pipeline including hydrotesting of all crossing sections along-with the mainline. However, payment for pre-testing if required, are inclusive in above items rate. 5. Payment for Preparation of as-built drawings, pipe-book and other records as specified in the specifications is to be covered in this SOR rate. 6. Contractor shall return all surplus material to designated storage yard as mentioned in Annexure-2 to SCC, as directed by Engineer-In-Charge. 7. The quantities mentioned above are tentative and may increase or decrease depending upon the site conditions/requirements. Items except above are covered separately. 8. Execution of pipeline laying in rocky starta shall be jointly recorded. 9. Bifurcation of Soil & Rocky starta shall be done based on the equipments used in trenching the pipeline section. For Rocky starta contractor have to use of rock breaking tool / rock hammer or other equivalent tools for preparation of trench with due approval of EIC. Supply and installation of padding materials (i.e. sand/soft soil) are inclusive in above items rate. Bidder has to quote accordingly. 10. Owner supplied 3 LPE Line Pipe & Bare Pipe required for pipeline laying activity shall be shifted from owner designated store located within Jamshedpur GA & Ranchi GA and payment are inclusive in above items rate. Bidder has to quote accordingly. 11. Supply of all valves, flanges, fittings, assorted pipes, barred tees & insulating Joints, etc. if required for piping works shall be paid by separate item mentioned elsewhere in SOR. 12. In above item, backfilling of pipeline trench by borrowed select soil duly approved by Owner / EIC shall be paid by separate item mentioned elsewhere in the SOR. 13. Rate for providing end cap / blind (if required) at both the ends for carrier pipeline as per specification is included in above quoted rates 15. The rates shall be applicable for all locations / region/ charge area within & around the GA. 16. Contractor shall ensure that no tree/plant cutting shall be carried out during Pipe Line Laying operations. Trenching shall be carried out manually if needed, so as to ensure no damage to plant/tree/OFC /water pipe line /foreign pipeline/telephone line/sewage line/electric cable and other under ground utilities. 17. Payment for items above under pipeline laying in all type of Rocky strata including hard rock of single piece exceeding 1.5 meter in any direction within the trench dimension with respect to length, width & depth and removal only by pneumatic chisel/ drill/ rock-breaker. Trenching in rocky starta shall be done by rock breaking tool / rock hammer. Supply and installation of padding materials (i.e. sand / soft soil) shall be done as per direction of EIC. Bidder to quote accordingly.									

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Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
	18. Bidder has to familiarise themselves the entire pipeline route and all locations /region/ charge area within the GA and ascertain all type of eventuality/uncertainty before quoting their bid. 19. Payment for carrying out liaisoning & co-ordination utility/foreign pipeline crossings (if any) and obtaining permission / NOC from these authorities including assistance in ROU opening & closing and their maintenance/ management both side of the crossings shall be made under Sl. no. 240 (Item Code B001400) mentioned elsewhere in this SOR. 20. Crossings encounters in pipeline route with width of 6 meter & below shall be executed through above item rate, however crossings more than 6.0 meter shall be payable through crossing through HDD item available else where in SOR.					
159	PIPELINE LAYING / INSTALLATION BY HDD Complete work of laying of pipeline in restricted ROU along with adjacent road/nala (if minor road/nala falling under the laying profile and not considered under separate crossing) with two no. of HDPE duct for OFC by HDD method including "Receiving and taking over" owner supplied 3LPE coated line pipes from owner's designated place to issue/dump site(s) and transportation to contractor's stock yard/work site including all handling, loading, uploading, aligning etc. supply of all contractor supplied material including consumables, manpower, equipment, other resources to work site(s) and acquiring the required land for storage. Execution of, but not limited to, following works in accordance with specifications and instruction of engineer-in-charge and as per all provision of Contract Document.					
161	Pre-construction survey, necessary cover required over the carrier pipeline, based on site visit, collection of data (if required) from concerned Authority including design and detail engineering and making of drawings for getting their approval from concerned Authority/Engineer-in-charge, getting work permit/NOC for utilities crossings (if any) encountered prior to start the execution of work.					
162	Drilling to required depth from top of ground (min 2.0 mtrs.) including maintenance of drill hole in all types of soil including pebbles, cobbles, boulders, structures etc. and all types of rocky strata, all depth to accommodate the pipeline at all conditions encountered by approved HDD methods for providing minimum cover specified in code/specification or the actual depth as decided by concerned authority, whichever is more.					
163	Laying of the pipeline by the approved HDD method including pipeline string preparation, welding, testing, 100% radiography by X-ray, welding repair and retest, coating of field joints with special type Dirax Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with special PERP-60E repair patch or equivalent material (including supply of repair patch) as per specification, pre-hydrotest of complete strings made for laying etc.					
164	Backfilling of the ditch/trench including restoration and clean-up of area, disposal of drilling fluid & waste etc. to the satisfaction of Engineer-in-charge and/or as directed by concerned Authority.					
165	Carrying out cleaning, gauging, water filling, pre-hydrotesting, of complete pipeline string in one section/ test sections as approved by EIC/RCM to specified test pressures (i.e. 1.5 times of Design pressure) for 4 hours hold period; providing all equipment, pumps, test headers, fittings, pressure & temperature instruments etc., and services, supervision, labour, consumables, water, air, etc. as required; detection of leaks, if any occurred during pre-hydrotesting, attributable to Contractor and rectification of defects, re-testing after rectification with due approval of Owner, successful completion of pre-hydrotesting including dewatering of pipeline to acceptance criteria defined in the specifications. Supply of required quantity of corrosion inhibitor, if required for pre-testing of designated sections complete as per specification and approved by Engineer-in-charge (EIC)/ RCM. Note : 1. Leak detection, its rectification and successfully re-hydrotesting shall be carried out by Contractor with a view that completion of all activity for successful pre-hydrotesting should not be inordinately extended / delayed , which will hamper the overall project schedule. Further, no extra payment claim shall be entertained for re-hydrotesting, leak detection and their rectifications if defects found attributable to Contractor. 2. Payment for Gauging activity mentioned above shall be made under Sl. no. 243 (Item Code A001000) mentioned elsewhere in this SOR. 3. Payment for Post installation of hydrostatic testing activity shall be made under Sl. no. 248 (Item Code A001100) mentioned elsewhere in this SOR.					
166	Supply of HDPE duct and OFC shall be in the scope of GAIL/Client					
167	Digging of Entry and exit pit for carrying out HDD as per the instruction of EIC/GAIL GA Incharge					

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Sl. No.	Item Description					Qty.	Units	ADORN		AHR Items
	Specified dia (mm) NB	Thk (mm)	Material	Coating Type	Length of each pipe			Unit Rate Excl.	Amount Excl. GST (in INR)	
168	Installation/Laying of Coated Line Pipes as per following details:									
169										
170	100	6.4	API 5L Gr. X-52	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)	1000	Mtr	25	25,000	
171	100	6.4	API 5L Gr. X-52	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)	2000	Mtr	25	50,000	
172	100	6.4	API 5L Gr. X-52	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)	2000	Mtr	25	50,000	
	Note:									
173	(i) Pipeline length are tentative and for various crossings/site locations wherein laying through open cut is not feasible. Tenderer are advised to visit the site for actual assessment of extent of laying and to access the maximum extent of cover which may have to be provided. Actual string length for HDD shall be as per design calculations so that pipe is not under stress as permitted by codes/ specifications. Final length of string shall be decided after decision of minimum cover requirement by concerned Authority/ Engineer-in-charge.									
174	(ii) Payment for the length of final tied-in carrier pipeline string are inclusive in the above item rate and no separate payment shall be made under other item mentioned elsewhere.									
175	(iii) The quantities mentioned above are tentative and may increase or decrease depending upon the site conditions/requirements. The quantity indicated against each item are for multiple shots and shall be as per requirement at site for laying at different locations.									
176	(iv) Contractor have to use rock drilling tool and all other accessories as required to make drill hole in rocky strata.									
177	(iv) Insertion / Pulling of 01 nos of HDPE duct (as applicable in relevant SOR) and their blinding/plugging shall be in the scope of contractor and the rate for pulling is NOT included in above quoted rates. If required/Instructed by EIC/GAIL GA Incharge then it will be paid separately under relevant SOR mentioned elsewhere. Supply of HDPE duct and OFC shall be in the scope of GAIL/Client									
178	(v) HDD crossing of carrier pipe as well as 40 mm OFC Duct(one or two as per the instruction of EIC/GAIL GA Incharge) shall be carried out by suitably strapping together both the carrier pipe & OFC Duct and pulled together in the same drill hole at site and as per the decision of EIC/RCM. Separate payment for HDD for HDPE duct shall be paid under relevant item elsewhere in SOR .									
179	(vi) Contractor shall not perform any pipeline related activities along the ROU without specified barricading/permission of EIC/RCM as per Std. Drg. and other safety measures.									
180	(vii)The above items rate shall be applicable for all locations / region/ charge area within & around the GA.									
181	(viii) Payment for carrying out liaisoning & co-ordination works for utility/foreign pipeline crossings (if any) and obtaining permission / NOC from these authorities including assistance in ROU opening & closing and their maintenance/ management both side of the crossings shall be made under SI.no. 240 (item Code B001400) mentioned elsewhere in this SOR.									
182	(ix). Crossings encounters in pipeline route with width of 6 meter & higher shall be executed through above item rate.									
183	BORROWED SELECT SOIL FOR BACKFILLING									
184	Additional work over and above item 1.0 for supply of specified and approved quality of borrowed local soft graded soil / sand in place of available excavated material and / or other suitable soil as per applicable standards / specifications, including backfilling of excavated trench for specified length after laying and padding of pipeline, including local transportation of such special backfill material over all distances, complete.									
185	SUPPLY OF WARNING MAT Supply of warning mat for pipeline as per the technical specification enclosed in the bid document. The material of warning mat shall be of high density polyethylene and non biodegradable type. It shall have non-toxic and anti rodent properties.									
186	4" NB Pipeline									
187	EXCAVATION FOR PIPE TOP COVER BEYOND 1.5M DEPTH IN CASE OF CROSSING OF UTILITIES/ DRAIN/ CULVERTS ETC. THROUGH OPEN CUT UPTO THE FOLLOWING DEPTH (INCLUDING RESTORATION OF THE DAMAGED AREA TO ITS ORIGINAL CONDITION AND SATISFACTION OF THE ENGINEER-IN-CHARGE / CONCERNED AUTHORITIES) . THE OTHER ACTIVITIES ARE AS PER SI.no. 126 (Item Code B00100)									
188	in Normal Surface / Unprepared surface (Katcha Surface)									

SOR

LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPURY) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
189	Deeper than 1.5 m & upto 2.5 m below existing level (for 200/150/100 mm NB Pipeline)	10	Mtr	45	450	
190	Deeper than 2.5 m & upto 4.5 m below existing level (for 200/150/100 mm NB Pipeline)	5	Mtr	45	225	
191	Note: (i) Quantities indicated in tentative and for various locations.					
192	(ii) Prior permission from EIC is required before execution of above item.					
193	REPAIR OF DEFECT IN PIPES (NOT ATTRIBUTED TO CONTRACTOR)					
194	Repair of defects on Owner supplied linepipes of all grades and wall thickness as specified in following items, noted and recorded at the time of "receiving and taking over" by Contractor in the presence of Engineer-in-charge.					
195	Cutting and rebelling for dents in bevels exceeding 3 mm in depth for pipe sizes:					
196	Specified OD, mm					
197	114.3	1	Nos.	67,000	67,000	AHR
198	Jack out of dents in bevels ranging between 1 mm and 3 mm in depth for pipe sizes:					
199	Specified OD, mm					
200	114.3	1	Nos.	67,000	67,000	AHR
201	REPAIR OF COATING DEFECTS (NOT ATTRIBUTED TO CONTRACTOR)					
202	Repair of Holiday in Coating (Noted and recorded at the time of "receiving and taking over")					
203	Supply of all coating repair materials as per requirements of specification to be compatible with line pipe coating material, supply of all consumables, utilities, equipments and all manpower required, pipe cleaning and surface preparation, repairing of coating defects (resulting in holiday) and testing including all handling, transportation, etc. for line pipes, performing all works necessary for the completion of the works strictly in accordance with relevant specification and instructions of Engineer-In-Charge. This rate shall be applicable per sq. cm of the exposed steel area exposed steel area.	20	Sq. Cm	650	13,000	
204	PERMANENT MARKERS					
205	Supply, fabrication and installation of all types of permanent markers along the route including all associated civil works such as excavation in all types of soil, construction in all types of soil, construction of pedestals and grouting with concrete, clearing, supply and application of approved colour and quality of primer and paint, stencil letter cutting for numbers, direction, change etc., restoration of area to original condition and performing all works as per drawing, specification and instruction of engineer-in-charge.					
206	Pipeline RCC boundary / route marker as per drawing	100	Nos.	1,150	115,000	
207	Pipeline warning markers with post & foundations	75	Nos.	5,300	397,500	
208	Pipeline direction marker with post & foundations	5	Nos.	6,500	32,500	
209	LEAK / BURST (ATTRIBUTABLE TO OWNER)					
210	All works for locating leak / burst in Company's supplied material only (occurred during hydro-static testing) including necessary repairing/replacing defective pipe lengths including cutting and out and removing the defective pipe, pre-testing and welding of replacement pipe, NDT of welds, repair and retesting of defective welds, coating/painting of replacement pipe, pretesting the replacement pipe into mainline/branch line, coating/painting of welding joints, cleanup, retesting including cost of all labour materials, consumables and performing all works in accordance with the provisions of the Contract document and as directed by Owner /Engineer-in-charge/ Engineer in-charge					
211	For 4" NB Line	1	LS	23,750	23,750	
212	Note:					
213	(i) This rate is applicable for manufacturing defects in Owner supplied material only.					
214	(ii) Leak detection, its rectification and successfully re-hydrotesting shall be carried out as per approved procedure by Contractor with a view that completion of all activity for successful hydrotesting is not inordinately extended which will hamper the overall project schedule.					
215	GAUGING (APPLICABLE FOR MAIN STEEL PIPELINE HYDROSTATIC TEST, PRE & POST INSTALLATION HYDROSTATIC TEST FOR CROSSINGS) (Excluding standalone crossing)					
216	As per specification and procedure approved by Engineer-in-charge (EIC)/ RCM.					
217	100 6.4 API 5L Gr. X-52 3 Layer PE Double random Coating (Externally) (approx. 11.5 m to 12.5 m)	7750	Mtr	45	348,750	

SOR

LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
218	NOTE:- (i) The quantities mentioned against the above SOR items are tentative and may vary depending upon the site condition during execution stage. (ii) The total quantities mentioned against the above SOR items are applicable for main steel pipeline and multiple/ various crossings at different location within GA . (iii) Payment for above item shall be made only for the certified executed length of pipeline by Engineer-in-charge (EIC)/ RCM. (iv) The requirement of gauging of main steel pipeline, prehydrotest & after pulling of HDD section shall be carried out as per MECON specification / OISD / PNGRB and same shall be approved by Engineer-in-charge (EIC)/ RCM.					
219	HYDROSTATIC TESTING OF BURIED PIPELINE (Excluding standalone crossing)					
220	Carrying out cleaning, gauging, pigging and hydrostatic testing of complete pipeline section laid by HDD/Open cut method as approved by EIC/RCM to specified pressures (i.e. 1.5 times of the design pressure) for 24 hours holding period; providing all equipment, pumps, test headers, fittings, instruments, dead weight tester, pressure recorder, temperature recorder, pressure & temperature gauge etc., and services, supervision, labour, consumables, water including supply of corrosion inhibitor, air, etc. as required for successful completion of hydrotesting of pipeline to acceptance criteria as per specifications, codes, approved drawings, calculations, methods and as directed by Engineer-in-charge and provision of contract document. Complete dewatering and swabbing of the pipeline as per specification and to the entire satisfaction of the EIC/RCM.					
221	100 6.4 API 5L Gr. X-52 3 Layer PE Double random Coating (Externally) (approx. 11.5 m to 12.5 m)	7750	Mtr	67	519,250	
222	Notes: i) The above quantity is not for a single section but for no. of sections for pipeline laying. ii) The quantities mentioned against the above SOR items are tentative and may vary depending upon the site condition during execution stage. iii) Payment for Gauging activity mentioned above shall be made under SI no. 216 (Item Code B001000) mentioned elsewhere in this SOR.					
223	Drying by Vacuum drying / Super air drying / Super dry nitrogen					
224	Complete work of carrying out drying by Vacuum drying / Super air drying / Super dry nitrogen & commissioning of pipeline section including supply of manpower, equipments & consumables (nitrogen required for purging etc.), materials for all temporary works and performing all associated works, complete as per the relevant specifications, other provisions of Contract document and instructions of Engineer-in-Charge.					
225	100 6.4 API 5L Gr. X-52 3 Layer PE Double random Coating (Externally) (approx. 11.5 m to 12.5 m)	7750	Mtr	45	348,750	AHR
226	Note: The quantities mentioned above for various pipeline sections. Final methodology of drying shall be decided by EIC at the time of execution.					
227	COMMISSIONING ASSISTANCE / COMMISSIONING FOR UNDERGROUND PIPELINE LENGTH AND STATIONS					
228	100 6.4 API 5L Gr. X-52 3 Layer PE Double random Coating (Externally) (approx. 11.5 m to 12.5 m)	7750	Mtr	56	434,000	AHR
229	Note:- The above rates are applicable for no. of pipeline sections.					
230	PRESERVATION OF PIPELINE					
231	Preservation of pipeline sections and associated facilities (in event of delay in ROU acquisition/statutory permissions, commissioning, other unforeseen reasons) including supply of nitrogen, all consumables, all equipment, man-power, etc. complete as per the requirements of specifications, other provisions of Contract document and instructions of Engineer-in-charge.					
232	By filling and pressurizing with nitrogen to a pressure of 2 bar(g) for a period of one month.					
233	For 4" NB Line	7750	Mtr	56	434,000	AHR
234	For every additional period of one month or part thereof					
235	For 4" NB Line	7750	Mtr	56	434,000	AHR
236	Notes: i) The above length is not for a single section but for no. of sections.					
237	ii) All accessories ie: Two nos. of dished end caps and two nos. of tappings of 3/4 inches, PG to be considered per section and rate for the same shall be quoted by bidder under this item.					
238	iii) If month is partially complete, payment shall be made on prorata basis.					

SOR

LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
239	PIPELINE LAYING LIAISONING & CO-ORDINATION (INCLUDING UTILITY CROSSING) AND OBTAINING PERMISSION / NOC FROM THE STATUTORY / CONCERNED AUTHORITIES. ASSISTANCE IN ROU OPENING & CLOSING AND THEIR MAINTENANCE/ MANAGEMENT. (EXCLUDING STANDALONE CROSSINGS)					
240	Submitting request for (after obtaining the letter from client) permission , follow up , assisting in site inspections / route survey / site report making/making site inspection drawings , submitting at designated offices , resubmission after correction , modification if required , soft and hard copy in nos. as required /if required in sizes , and collecting permission from the statutory authorities including NHAI , PWD , Railways , Irrigation , Forest , Municipal Corporation, District administration, River Authority,SEZ etc. Obtaining work permits /NOC from various statutory authorities having jurisdiction before execution of the work and complying with all stipulations /conditions/recommendations of the said authorities. Only statutory fees shall be paid by the owner. Assistance in required length and width/restricted width of ROU opening & closing and their maintenance/ management both side of the crossings.	1	LS	700,000	700,000	AHR
241	TRANSPORTATION OF LINE PIPE					
242	"Receiving and taking over", handling, lifting, loading on trailers, transportation and unloading of Company supplied line pipe from any storage yard (other than the designated storage yard for the project) to worksite / contractor's storage yard/ any other storage yard or as decided by EIC. The above work also includes stacking the pipes on wooden sleepers/ sand pads. Above work shall be carried out as per standard drawing, specification, instruction of Owner and other provision of contract document.	25000	MT-KM	25	625,000	
243	Notes: i) The quantities given in above item no. are tentative only and shall not be considered to be binding. The quantities may be increased, decreased or deleted as per the actual site requirement and instructions / recommendations of Owner. The unit rate shall be operated to work out the final payment to the contractor.					
244	ii) Above price shall be inclusive of all type of taxes & duties, transit insurance during transportation & other insurance etc. including all financial & commercial implication as per the tender document. No other payment except as per quoted unit rate & executed quantities will be payable by the Owner.					
245	iii) Safe storage of transported linepipe till installation , reconciliation & handover to client shall be part of the above item.Contractor has been advised to quote accordingly.					
246	TRANSPORTATION OF FITTINGS, FLANGES, VALVES, BARREL, ANY OTHER MATERIAL AS PER PROJECT REQUIREMENT .ETC					
247	"Receiving and taking over", handling, lifting, loading on truck, transportation and unloading of Company supplied DRS/MRS/, Metering Skids, fittings, flanges and valves ...etc from any storage yard (other than the designated storage yard for the project) to worksite / contractor's storage yard/ any other storage yard or as decided by EIC. The above work also includes stacking the DRS/MRS/Metering Skids, flanges, fittings and valves etc. properly. Above work shall be carried out as per standard drawing, specification, instruction of Owner and other provision of contract document.	500	MT-KM	25	12,500	
248	Notes: i) The quantities given in above item no. are tentative only and shall not be considered to be binding. The quantities may be increased, decreased or deleted as per the actual site requirement and instructions / recommendations of Owner. The unit rate shall be operated to work out the final payment to the contractor.					
249	ii) Above price shall be inclusive of all type of taxes & duties, transit insurance during transportation & other insurance etc. including all financial & commercial implication as per the tender document. No other payment except as per quoted unit rate & executed quantities will be payable by the Owner.					
250	iii) Safe storage of transported material till installation shall be part of the above item.Contractor has been advised to quote accordingly.					
251	Sub-Total Section B					
252	SECTION C - TCP Works					
253	(TEMPORARY CATHODIC PROTECTION WORKS)					

SOR

LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
254	Design, detail engineering, Manufacturing, Inspection/FAT (Factory acceptance test), supply, Packing, insurance, transportation to site, storage at site, Handling, Transportation, Loading, installation, testing & commissioning of the temporary Cathodic protection system using Mg (Min 5.0 Kg Each) galvanic anodes to protect the external surface of 4" dia x 10.5 km (approx.) long 3LPE Coated pipeline & associated works at Jamshedpur & Ranchi GA, against corrosion for a design life of minimum 2 year or till commissioning of PCP system whichever is later, as per standard specification No.- MEC/S/05/E9/016A for temporary cathodic protection system, Scope of work, Data Sheets & tender drawings. Scope shall also include but not limited to the following for completion of jobs:					
255	Soil resistivity Survey & soil/water chemical analysis					
256	Measurement of soil resistivity along the right of way of the main pipeline (At 500mtr Interval at depth of 1.5M, 2.5M & 3.5M) & collection of additional data as per specification for corrosion survey MEC/TS/05/21/016C & applicable NACE standard including preparation of Design, detailed engineering, preparation of design document, preparation of Test station schedule & Bill of Material.	10.5	KM	1,800	18,900	
257	Collection of soil & water samples along ROW at depth of 1M, 2M & 3M at every 5 km interval (Min 03 sample at each location) for its chemical & microbial analysis along the pipeline route as per specification for corrosion survey MEC/TS/05/21/016C & NACE Standard TM0106-2006 for detection of SRB, ARB & Total dissolved H2S etc.	3	No.	67,000	201,000	AHR
258	Sacrificial anodes- Pre packed Mg anodes					
259	Prepacked Magnesium anodes for Carrier/Casing Pipe protection (Min 5.0 Kg Each) as per tender specification (1/2/3/4 Nos. of anodes). The total nos. of anodes shall be calculated as per the corrosion survey, soil chemical analysis, total weight and current requirement of the pipeline section. However, Min one anode is to be installed at every one KM with test station.	16	Nos.	17,500	280,000	
260	Supply, laying, termination, Glanding and ferruling TCP-Cables--The Cables shall be annealed high conductivity, stranded copper conductor, 650/1100V grade, XLPE Insulated & PVC Sheathed in new/existing test stations and junction boxes.					
261	1c x 6 mm ² - Anode tail cable - unarmored	200	Mtr	650	130,000	AHR
262	1 core x 6 mm ² - Potential Measurement, TLP to pipeline, armoured	250	Mtr	650	162,500	AHR
263	1 core x 10 mm ² - current measurement cable & Pipeline to Test station- armoured	250	Mtr	650	162,500	AHR
264	1 core x 25 mm ² -Bonding, Earthing, Surge diverter, HT line, etc.	200	Mtr	650	130,000	
265	Test Stations					
266	New test stations Normal Size-(Weather Proof with IP-55) as per tender drawings with name plate	16	Nos.	46,700	747,200	AHR
267	New test stations Big Size-(Weather Proof with IP-55) suitable for Polarisation Cells as per tender drawings with name plate	1	Nos.	46,700	46,700	
268	All Cable to pipe connections by Exothermic Process or Pin Brazing for all sizes (Upto 1C x 25mm ² for complete TCP system of whole pipeline.	1	LS	100,000	100,000	
269	Solid State type Polarisation cells (3.7 kA @ 30 Cycle) for HT power line crossings (66KV & above).	1	Nos.	65,000	65,000	
270	20 Kg Sacrificial Zinc anodes for HT line crossing, Earthing of block valves on Cathodically Protected portion of pipeline.	2	Nos.	32,600	65,200	
271	Cu-wire mitigator for AC Mitigation encased in low resistance backfill with corrosion inhibitors and braiding (M/s MATCOR make or equivalent) (20 Mtr wire shall be installed on each side of HT crossing, Cables running parallel etc).	20	Mtr	650	13,000	
272	Solid state Surge Diverters rating 100 kA (10/350 uS) for Insulating Joints.	2	Nos.	37,600	75,200	
273	HDPE sheet (Non-toxic and Rodent Resistant, 6mm thick & 5000mm wide (1200mmx5)) between the GAIL pipeline and the other CP protected foreign pipelines at the crossing locations for providing electrical isolation.	50	Mtr	450	22,500	
274	Supply, installation, testing, commissioning of the complete earthing protection system, earth electrodes/ pit, earth main ring, earthing of electrical equipments, instrument panels, field instruments, process equipments and pipes/ flanges including all associated civil work with all material and labour as per specification and drawings approved by the company.					
275	Earthing Electrodes 65mm dia x 3mtr long & 4.5 mm thick GI pipe for earthing of cathodically unprotected pipeline at CNG station/consumer station/DRS station/Metering skid and earthing. Total grounding resistance shall be limited to 2-3 Ohm max.	2	Nos.	5,500	11,000	
276	GI Strip (50X6) mm	100	Mtr	5,500	550,000	AHR
277	GI Strip (25X3) mm	100	Mtr	5,500	550,000	AHR
278	Copper Strip (25X3) mm	50	Mtr	5,500	275,000	AHR
279	GI Wire (8mm-Stranded), Cu-wire rope (Min 8 mm dia solid) and all balance earthing material including copper strip (50 mm x 2 mm thick) jumper for flanges etc. as per the specification for all stations.	1	Lot	4,500	4,500	

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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
280	Monitoring of the TCP system, on monthly basis, till commissioning of the permanent cathodic protection system.	24	Mont	11,000	264,000	
281	Polarisation coupons (100 mmx 100mm) with Magnetic reed switch as per NACE SP 104 with permanent ref cell.	3	Nos.	45,000	135,000	AHR
282	Sub-Total Section C					
283	SECTION-D [PIPING & MECHANICAL WORKS]					
284	SUPPLY OF ASSORTED PIPE, FITTINGS AND FLANGES					
285	Complete work of supply of pipes, fittings and flanges including all taxes, duties, transportation and inspection charges but not limited to the following items in accordance with relevant specifications indicated in clause of SCC & scope of work indicated in SCC, drawings, specification and instructions of Engineer-in-charge and as per all provisions of the CONTRACT DOCUMENT.					
286	Handling including lifting, transportation from Contractor Stores to CONTRACTOR's workshop for fabrication and/ or to work site for field fabrication and erection for all piping items supplied by Contractor.					
287	CARBON STEEL PIPES					
288	4"NB, S40, ASTM A106, Gr. B (Charpy), Seamless, BE	24	Mtr	2,450	58,800	
289	2" NB, XS, ASTM A106, Gr. B (Charpy), Seamless, BE	36	Mtr	1,145	41,220	
290	1" NB, XS, ASTM A106, Gr. B, Seamless, PE	3	Mtr	510	1,530	
291	3/4" NB, S160, ASTM A106, Gr. B, Seamless, PE	3	Mtr	345	1,035	
292	FLANGES					
293	Weld Neck (B-16.5, A105(Charpy), 125 AARH, RF)					
294	4" NB, 300#	2	Nos.	1,520	3,040	
295	2" NB, 300#	8	Nos.	1,520	12,160	
296	1" NB, Socket Welded (B-16.5, A105, 125 AARH, SW end to B16.5), 300#	2	Nos.	1,425	2,850	AHR
297	3/4" NB, Socket Welded (B-16.5, A105, 125 AARH, SW end to B16.5), 300#	8	Nos.	1,425	11,400	AHR
298	Blind Flanges (B-16.5, A105 (Charpy), 125 AARH, RF)					
299	4" NB	4	Nos.	5,382	21,527	
300	2" NB	6	Nos.	1,169	7,014	
301	1" NB, Blind Flanges (B-16.5, A105, 125 AARH, RF)	6	Nos.	980	5,880	AHR
302	3/4" NB, Blind Flanges (B-16.5, A105, 125 AARH, RF)	6	Nos.	670	4,020	
303	ELBOW, 90° Elbow (A234, Gr. WPB (Charpy), B-16.9, 1.5D), BW					
304	4" NB, S40					
305	2" NB, XS	2	Nos.	5,647	11,293	AHR
306	ELBOW, 45° Elbow (A234, Gr. WPB (Charpy), B-16.9, 1.5D), BW	12	Nos.	5,600	67,200	AHR
307	4" NB					
308	2" NB					
309	TEE, Equal / Reducing Tee (A234, Gr. WPB (Charpy), B-16.9, 1.5D), BW	2	Nos.	2,780	5,559	AHR
310	4"X4"X4", S40	2	Nos.	2,680	5,360	AHR
311	2"X2"X2", XS	1	Nos.	4,289	4,289	AHR
312	TEE, Unequal / Reducing Tee (A234, Gr. WPB (Charpy), B-16.9, 1.5D), BW	6	Nos.	4,289	25,735	AHR
313	4"X4"X2" (S40 x XS)	8	Nos.	3,871	30,971	AHR
314	BARRED TEE (As per Standard Specification and Data Sheets enclosed)					
315	4" x4"x 4" (As per datasheet)	4	Nos.	11,560	46,240	
316	SOCKOLET (A105, SW)					
317	4" x 3/4" (6000#)	6	Nos.	1,945	11,671	AHR
318	4" x 1" (6000#)	1	Nos.	1,945	1,945	

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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
319	Reducer (A 234 Gr. WPB (Charpy), BW)					
320	4" x 2" (S40 x XS)	1	Nos.	3,036	3,036	AHR
321	INSULATING JOINTS (As per Standard Specification and Data Sheets enclosed)					
322	4" 300#	1	Nos.	67,000	67,000	AHR
323	End Caps (A 234 Gr. WPB (Charpy), BW)					
324	4" S40	2	Nos.	4,555	9,110	AHR
325	2" Sch. XS	2	Nos.	4,555	9,110	AHR
326	Note:a) All butt welded fittings end shall generally match with connecting pipe wall thickness however in case of misalignment Contractor shall have to do end preparation without any extra cost.					
327	B) All coupling, nipples etc. as required shall be supplied by contractor but no separate payments shall be made as it is covered under erection rate.					
328	c) Quantities mentioned against each above sub-item of Sl.no. 356 (Item Code D00200) are tentative and may increase or decrease during execution of work depending upon site requirement. Contractor required to supply materials after assessing the site requirement and in multiple lot or as per Release Order/ Sub Purchase Order wise. All material either in multiple lot or as per Release Order/ Sub Purchase Order wise or as decided by EIC shall be supplied by bidder within the quoted price.					
329	Supply of Valves					
330	Complete work of supply of valves including all taxes, duties, transportation and inspection charges but not limited to the following items in accordance with relevant Specifications & relevant Data Sheets indicated in scope of work indicated in SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT.					
331	Plug Valves					
332	2" BW, 300#	2	Nos.	42,500	85,000	
333	Ball Valves					
334	4" BW, FB(Fully welded), 300#	1	Nos.	75,000	75,000	
335	2" BW, FB(Fully welded), 300#	1	Nos.	48,500	48,500	AHR
336	2" FE, FB, 300#	1	Nos.	72,400	72,400	
337	1" SW, FB, 800#	1	Nos.	16,650	16,650	AHR
338	3/4" SW, FB, 800#	2	Nos.	14,200	28,400	
339	Globe Valves					
340	2" FE.	2	Nos.	45,000	90,000	
341	Note: Quantities mentioned against each above sub-item of Sl no. 412 (Item Code D00300) are tentative and may increase or decrease during execution of work depending upon site requirement. Contractor required to supply materials after assessing the site requirement and in multiple lot or as per Release Order/ Sub Purchase Order wise. All material either in multiple lot or as per Release Order/ Sub Purchase Order wise or as decided by EIC shall be supplied by bidder within the quoted price.					
342	ERECTION OF VALVES (As per P & ID) (Above Ground)					
343	Handling including lifting and transportation from COMPANY's warehouse to CONTRACTOR'S Stores and/or work site and installation of all types of valves including assembly of valve accessories, (if any) by bolting, threading or welding, supply and insertion of gaskets, nuts & bolts, nipples, etc. at all elevations of pipe sleepers, supports or overhead on racks, equipments nozzle, skid & painting etc. supply of all consumables, manpower, equipment, etc. for completion of all works as per scope of work and as per drawings, specifications and instructions of Engineer-in-charge including servicing/ cleaning of valve wherever required. (This excludes erection of pipeline, other fittings, welding and Radiography) (Payment for welding and Radiography will be done separately under relevant SOR)					
344	Welded Valves (Full Bore/ Reduced Bore)					
345	4" NB, 300#	6	Nos.	3,450	20,700	
346	2" NB, 300#	12	Nos.	3,450	41,400	
347	Flanged Valves (Full Bore/ Reduced Bore)					
348	2" 300#	16	Nos.	3,450	55,200	

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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR) RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
349	Socket Welded Valve (Ball / Plug / Valves)					
350	1"	10	Nos.	3,450	34,500	AHR
351	3/4"	15	Nos.	3,450	51,750	AHR
352	Erection of Pipelines (As per P & ID) (Above Ground) along with all fittings except Valves etc					
353	Erection of Pipelines (As per P & ID) (Above Ground) along with all fittings etc. including supply of studs, nuts, gaskets etc for making the line single piece for Gas-In and painting as per MECON Specification (Sizes upto 4")	2500	Inch Meter	110	275,000	
354	Welding of joints for pipeline erection, fittings and Valves as per MECON Specification (Sizes upto 4")	1500	Inch Dia	600	900,000	AHR
355	Hydrotesting of various dia station piping as per Specification (Sizes upto 4")	1500	Inch Meter	80	120,000	AHR
356	Note : The above quantity is for aboveground piping only. Erection of underground valves (for Sectionalizing Valves, Tap Off and any other purpose as per the instructions of EIC/GAIL GA Incharge) already covered in mainline SOR.					
357	RADIOGRAPHY					
358	Performance of radiographic inspection by gamma radiation as per scope of work and as per specifications in piping of all types and thickness including providing/hiring of all necessary equipments, supply of all consumables, and whatever else even though not expressly mentioned but required to perform the work as per specifications and instructions of Engineer-in-Charge (full circle re-radiography of the repaired joint and additional radiography necessitated due to poor performance of contractor's welder shall be carried out by the Contractor at his own cost and shall not be paid extra by Company). Radiographs shall be submitted to the Engineer-in-Charge for acceptance, whose decision shall be final and binding.					
359	4" NB	40	No. of Joint	1,150	46,000	
360	2" NB	40	No. of Joint	1,150	46,000	AHR
361	FIELD INSTRUMENTS					
362	Supply of Pressure Gauges inclusive of supply of erection accessories as per data sheet. (300#)	10	No.	5,000	50,000	
363	Installation, Calibration, Testing & Commissioning of Pressure Gauges inclusive of supply of necessary piping materials/tubings along with all necessary valves & fittings, fabrication and installation of impulse lines/manifolds & hydraulic testing as per installation standard no. MEC/05/ES/SD/PG/004 (300#)	10	No.	1,500	15,000	
364	Note: Quantities mentioned for above items are tentative and shall be supplied with prior approval of EIC with in the quoted price.					
365	Sub-Total Section D					
366	SECTION-E [CIVIL WORKS]					
367	EARTH WORK IN EXCAVATION/ SITE GRADING AND BACKFILLING					
368	Earth work in excavation /site grading in all kinds of soil including soft rock in any plan dimension up to required depth including backfilling of excavated earth at any location in layers of 300mm and compacted up to 95% to its MDD at all heights and depths. Surplus and unserviceable earth shall be disposed up to any lead in all conditions. Soil to be levelled and neatly dressed complete in all respect as per scope of work, detailed construction drawings, technical specifications and direction of the Engineer-in-Charge.	9	CUM	225	2,026	
369	Note:-					
370	1. This Rate shall be applicable only for excavation which are not included as a part of respective SOR item.					
371	2. The Contractor shall take into account in his quoted rate the provision for excess excavation required for necessary working space, cutting in slopes etc., which may be required for excavation and other allied works and refilling the side slopes and working space in layers as per requirement.					
372	3. Rate to include cost of all labour, tools, tackles, equipment, hire charges, shoring, bailing and pumping out water as required etc. with all bye works and sundry works complete in all respects.					
373	4. NET CUM of excavated quantity in CUM shall be measured for payment.					
374	5. To be read in conjunction with Particular Job Specification.					
375	BRICK WORK					

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LAYING, HDD AND ASSOCIATED WORKS OF 4" NB DIA. PIPELINE UNDER EAST SINGHBHUM (JAMSHEDPUR)/ RANCHI GA FOR CITY GAS DISTRIBUTION NETWORK (12 MONTHS ANNUAL RATE

Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
376	Providing and laying brick work with brick class designation M-5.0 of IS:1077 in Cement Mortar 1:4 (Cement : 4 sand) in steps, load bearing structures, drains, or at any other location at all depths & height for all leads including providing required finishes, curing, scaffolding, etc., complete as per specifications and drawings with all bye-works as per direction of the Engineer-in-charge.	6	CUM	6,221	37,327	
377	Note:- 1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement (OPC), bricks, finishes, bitumen, other minor construction materials, shuttering, staging, masonry work, excavation, PCC M10, plastering with 15 mm thick cement plaster on exposed faces with 1:4 cement mortar (1 cement : 4 Sand), painting with bitumen etc. as per requirement with all bye-works and sundry works complete as per drawings.					
378						
379	2. To be read in conjunction with Particular Job Specification.					
380	PLAIN CEMENT CONCRETE					
381	Supplying and laying plain cement concrete of grade M 10 with stone aggregate 40mm down grade (including shuttering if required) in all types of concrete works including levelling courses below foundations, mass concrete works, chambers, cable trench, under floors and any other locations, at all levels and locations (which are not covered as part of composite items) as per drawings, specifications and directions of the Engineer-in-charge.	5	CUM	5,428	27,139	
382	Note :-					
383	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials, shuttering in all conditions etc. with all bye works and sundry works.					
384	2. To be read in conjunction with Particular Job Specification.					
385	REINFORCED CEMENT CONCRETE					
386	Providing and laying Reinforced Cement Concrete of grade M-25 with 20mm and down grade crushed stone aggregate in all types of structures like foundations, beam, columns, pedestals, pedestal bases, pipe supports, sleepers, cable trench, RCC retaining wall foundation for boundary wall etc. including excavation, PCC M10 in mud mat, shuttering, construction joints, bitumen painting on surfaces in contact with soil, supplying and fixing MS inserts, finishes etc. at all depths and levels complete as per drawings, specifications and directions of the Engineer-in-charge.	5	CUM	8,446	42,229	
387	Note :-					
388	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade OPC cement including sulphate resistant cement for sub-structures, inserts, bolts, conduits, bitumen, excavation, PCC M-10 in mud mat, other minor construction materials, shuttering, staging, testing of concrete, curing etc. except reinforcement steel with all bye works and sundry works complete.					
389	2. To be read in conjunction with Particular Job Specification.					
390	REINFORCEMENT STEEL					
391	Supplying and Fabricating and Fixing in position HYSD Steel Reinforcements/ TMT Grade Fe-415/Fe 500D conforming to IS1786-2008 at all levels and positions including the Cost of transportation, Straightening, Cutting, Bending, Cranking, Binding, Welding, Provision of necessary Chairs and Spacers, Preparation of bar bending schedule, getting the same approved by EIC etc., complete as per Drawings and Specifications and including Cost of binding wire, Labour etc., all complete in all respects as per scope of work, detailed construction drawings, technical specifications and direction of Engineer-in-charge. The Chairs and Spacer Bars provided will not be measured for payment.	1	MT	130,000	130,000	
392	Note :-					
393	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as steel Reinforcement, binding wire and other minor construction materials, testing etc. all bye works and sundry works.					
394	2. Chairs, Laps, Spacers, Wastage etc. shall be to contractor's account.					
395	3. To be read in conjunction with Particular Job Specification.					
396	CONCRETE PAVEMENT					

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Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
397	Providing and laying reinforced cement concrete pavement 150 mm thick in M-25 grade with 20 mm and down grade crushed stone aggregate in pavement, including earthwork in excavation, preparation of base (i.e. compacted subgrade, 200 thk sand and 100 thk PCC M-10 grade), leaving pockets if necessary, making recess, projections, fixing inserts conduit pipes (GI, PVC, HDPE, etc.) laying in alternate panels, filling the gaps between the panels with bitumen sand mix filler material etc., making slopes, finishing edges, leaving bars for pedestals & sleepers including providing sand fill isolation, shuttering, providing and fixing reinforcing steel, curing, chipping and modification works etc. as specified in any shape, thickness, position and finishing the top surface smooth as per requirement etc. all complete as per drawings, specifications and directions of the Engineer-in-charge.					
398	150mm thick in Pavements in Process Areas. (Type - I)	100	SQM	11,679	1,167,900	AHR
399	Note :-					
400	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials, providing and fixing reinforcement steel, shuttering, earthwork in excavation and backfilling using serviceable earth in all conditions, preparation of base, etc. with all bye works and sundry works. Cost of works towards pipe supports & sleepers being raised from pavement is covered under respective RCC items.					
401	2. To be read in conjunction with Particular Job Specification.					
402	VALVE PIT					
403	Construction and handing over of RCC Valve Pit as per tender drawing, technical specification and direction of engineer-in-charge complete in all respect. Scope of work shall be as per tender drawing.					
404	Construction and handing over of RCC Valve Pit of approx. 3.2 m x 1.6 m in size (internal dimension) as per technical specification and direction of engineer-in-charge complete in all respect. Scope of work shall be as per Sketch attached with the tender.	2	Nos.	84,000	168,000	
405	Construction and handing over of RCC Valve Pit of approx. 2.4 m x 1.6 m in size (internal dimension) as per technical specification and direction of engineer-in-charge complete in all respect. Scope of work shall be as per Sketch attached with the tender.	2	Nos.	65,000	130,000	
406	Construction and handing over of RCC Valve Pit of approx. 2.5m x 1.6 m in size (internal dimension) as per technical specification and direction of engineer-in-charge complete in all respect. Scope of work shall be as per Sketch attached with the tender.	2	Nos.	65,000	130,000	
407	Construction and handing over of RCC Valve Pit of approx. 1.6m x 1.6 m in size (internal dimension) as per technical specification and direction of engineer-in-charge complete in all respect. Scope of work shall be as per Sketch attached with the tender.	2	Nos.	45,000	90,000	
408	STEEL STRUCTURAL WORKS					
409	Steel structure Fabrication					
410	Supplying, Fabricating & Erecting in position steel structures fabricated out of MS Girders, channels, Tees, angle, flats, plate, square hollow sections pipes etc. conforming to IS:2062 and/or from pipes conforming to IS:1161 for structural purpose for cascade supporting structure, loading/unloading platform, Gratings for platform, calladder, handrails, hoardings for sinages, Lcv stand, etc. of any size/dia for required design including cutting, welding, bolting, hoisting, fixing in position, including application of one coat of primer at shop and second coat of primer at site after erection and two coats of finishing paint at site. The work is to be completed in all respect as per specification, scope of work, detailed construction drawings and directions of the Engineer-in-charge.	250	KG	87	21,750	
411	[Rate to include cost of all labour, nut, bolts, tools, tackles, hire charges royalties, levies, transportation, scrap value, gas cutting, welding, other consumables, paints, compressed air, water, electric power etc. all complete.]					
412	Providing and fixing Fencing Structure					
413	Supplying, fabricating & fixing steel structural fencing fabricated from pipes conforming to IS:1161 and plates conforming to IS:2062 & fixing of GI weldmesh made from 3mm GI wire @ 75 mm bothways to structural steel frame by means of welding/bolting, including applying two coats of approved quality of synthetic enamel paint over a priming coat of in approved shade including supply of all raw materials, bolts, electrodes, transportation, including making pockets & pouring with PCC (1:2:4) in of block 500x500x500 for fixing of posts etc complete as per enclosed drawing, technical specifications, scope of works and directions of the Engineer-in-charge.					
414	Fencing height 2.1m	50	RM	6,700	335,000	AHR
415	Notes:					
416	The quantities indicated are estimated values and hence are approximate. Final payment will be made based on actual quantities to be certified by the Purchaser.					
417	The cost of MS bolts (permanent and service), washers, electrodes, putty, gases, cost of straightening the raw materials, cutting of flats from plates and providing splices, paints, tools, plants, etc., as required for the work shall be deemed to be included in the quoted rates.					

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Sl. No.	Item Description	Qty.	Units	ADORN		AHR Items
				Unit Rate Excl.	Amount Excl. GST (in INR)	
418	All handling and transport charges of raw materials and fabricated structures including double handling, as required, for completion of work in accordance with					
419	Time schedule, are deemed to be included in the quoted rates					
420	All accessories like MS tower bolts, MS Pivot, MS Wheels, MS Tee section, locking arrangement etc. shall be measured by weight only.					
421	Contractor shall ensure proper alignment and smooth operation of Gate					
422	Sub-Total Section E					
423	SECTION-F TELECOMMUNICATION WORKS]					
424	Supply of Jointing Closures (suitable for 24 Fibre OFC) including all accessories of approved make of GAIL/MECON only.	7	Sets	45,000	315,000	AHR
425	Supply of Jointing Closures - 3 way / 4 way (suitable for 24 Fibre OFC) including all accessories of approved make of GAIL/MECON only.	5	Sets	45,000	225,000	AHR
426	Installation of 40mm OD(One or two as per the instruction of EIC/GAIL GA Incharge), permanently lubricated HDPE ducts, in same pipeline trench direct buried Open Cut Method) or Crossing through HDD(Bundle Pulling) in all type of soil & terrain, all work as define in mainline work, for terminal area or non pipeline area - excavation, padding, backfilling, supply & Laying of common warning mat/mesh (as provided for the pipeline), cleaning and sealing of ducts, for river crossing additional blowing pit at both end of the river bank, jointing of HDPE conduit, supply and installation of erection accessories as required, Testing of laid permanently lubricated HDPE ducts, rectification if required, cleaning and sealing of ducts at the end after testing, preparation of report, joint location marking in CAS, final acceptance / Handing over of the same to Client/ other contractor, Drawings and documentation all complete as per specifications provided in the bid document. (Supply of HDPE accessories required including Plastic Couplers (PC), End Plugs (EP), Cable Sealing Plugs (CSP), End Caps (EC) etc suitable & sufficient for supplied Duct, complete in all respect as per specification and as per direction of EIC). (This duct is for blowing of 24 F for total length of pipeline as per spec. and drawing)	12000	Mtr	24	288,000	
427	All activities pertaining to Blowing / Laying of optical fiber cable in same pipeline trench inside 40 mm HDPE telecom duct (after testing of OFC drum at site), testing of OFC before Blowing/laying, cable sealing etc. using all materials required complete as per specifications and drawing provided in the bid document & as per direction of EIC. (spare loop of 10 Meter at Blowing Pit, 20 Meter at Jointing Pit, & 100 Meter at each station in a Blowing Pit (if applicable) shall be provided- No payments for laying shall be made for these spare loops). The scope includes blowing of OFC through HDPE duct laid by the contractor as well as blowing of OFC through HDPE duct laid by other contractor.	12000	Mtr	24	288,000	
428	Submission of optical fiber cable & HDPE alignment sheets as per the requirements of specification based on the existing pipe line survey (No separate survey reqd.). estimation of OFC & HDPE duct including all accessories in accordance with the alignment sheet and specifications. Laying work can not be started without approval of these documents from Client / Consultant / EIC.	1	LS	45,000	45,000	
429	Supply and installation of OFC Blowing pits / Jointing pit (RCC pit as per MECON dwg & at every 1 KM distance for BP and every joint location for JP, at 1 meter away from the main pipeline), including sand etc all complete as per spec.Also, at every junction, branching points,HDD crossings, cased crossings, NH crossings blowing pit has to be considered.	18	Nos.	9,800	176,400	
430	Supply & installation of 300 dia OFC cable markers at all pipeline warning markers locations on same pipeline markers / KM marker / directional marker post as per specifications & drawing provided in the bid document and direction of consultant.	14	Nos.	1,150	16,100	
431	Splicing, jointing of optical fiber cable , final jointing / splicing, Testing of OFC after jointing all completed as per specifications & drawing provided in the bid document and as per instruction of EIC. This has to be done at all joint locations.	12	Nos.	15,600	187,200	
432	Supply and installation of Joint Marker at all jointing locations all complete as per spec., drawing provided in the bid document and the direction of consultant. This has to be done at all joint locations.	12	Nos.	15,600	187,200	AHR
433	Note : (i) The quantities of individual item can varied as per site requirement. The payment will be made as per actual certified measurement at site. For the supply items the quantities shall be procured after approval from client/ consultant/EIC.					
434	(ii) The bidder must indicate currency(ies) against each quoted item of the SOR.					
435	(iii) The total amount shall also be given by the bidder in the quoted currency(ies).					
436	(iv) Some of the may / may not be execute as per site requirements.					
436	Sub-Total Section F					
437	Sub-Total Section A + B + C + D + E + F				44,498,322	
438	GST (CGST&SGST/UTGST or IGST) amount on Total of Section A + B + C + D + E + F above	1			8,009,698	
	Total Including GST				52,508,020	