



Lyons Engineering Pvt. Ltd.

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An ISO 9001:2015 Certified Co.

Reg. No.U74140DL2012PTC237859

Ref: LEPL/GAIL/2022/ 138

4.7.2022

M/s GAIL (India) Limited,
Jubilee Tower,
B- 34 & 35, Sector - 01
Noida, UP (India)

Kind Attention: Mr. N C RAY (DGM – PE)

Subject: Submission of Award Recommendation – Laying Tender for Vardhman Connectivity
Dear Sir,

Please find enclosed herewith Award Recommendation for the subject Tender.

Lyons Engineering Pvt. Ltd.

M. Girish Kumar
[GM – C&P]



Certificate Registration No. **99 100 20576**
Date of Initial certification: **2019-12-20**



**AWARD RECOMMENDATION
LAYING TENDER FOR VARDHMAN CONNECTIVITY**

AWARD RECOMMENDATION

0	4.7.2022	Award Recommendation	AR	GK	SB
Rev.	Date	Subject of revision	Prepared	Checked	Approved



**AWARD RECOMMENDATION
LAYING TENDER FOR PCL TALOJA CONNECTIVITY**

CONTENTS

SR NO.	DESCRIPTION
1	AWARD RECOMMENDATION
2	ANNEXURE – I : EVALUATION OF PRICE BIDS AND COMPARISON OF PRICE BID
3	ANNEXURE – I: COMPARISON OF L1 PRICE BID WITH COST ESTIMATE
4	ANNEXURE– II: ORIGINAL PRICE BID OF BIDDER – THROUGH E MAIL
5	ANNEXURE –III : CHECKLIST FOR AWARD RECOMMENDATION
6	ANNEXURE IV: INTIMATION FROM GAIL FOR PRICE BID OPENING
9	ANNEXURE V – MINUTES OF MEETING FOR PBO



**AWARD RECOMMENDATION
LAYING TENDER FOR PCL TALOJA CONNECTIVITY**

A. SUMMARY SHEET

1.	Brief Description of Project	LAYING TENDER FOR VARDHMAN CONNECTIVITY
2.	Bid Document / Tender No. & date	E-TENDER REF : Tender 2022_GAIL_112213_1
3.	Scope of Work	LAYING OF PIPELINE AND ASSOCIATED WORKS FOR VARDHMAN CONNECTIVITY
4.	Mode of Tendering	OPEN Domestic Competitive Bidding
5.	Price Bid opening approval from GAIL	Vide mail dtd. 1.7.2022
6.	Price Bid opening scheduled time and date	At 17 Hrs on 1.7.2022 through Video Conference
7.	Actual Price Bid opening time and date	At 17.00 Hrs on 1.7.2022 through Video Conference
8.	L1 Price Vs Cost Estimate	Placed at ANNEXURE -I
9.	Original Price Bid of All Bidders	Placed at ANNEXURE – II- in Excel through E-Mail
10.	List of Bidders whose PBO was recommended by Lyons	1. Aneri Constructions Pvt. Ltd 2. Enprocon Enterprise Ltd., Ahmedabad 3. Harsha Infrapower Pvt. Ltd 4. Rambaran Singh Apex Pvt. Ltd 5. RS Infrasonolutions Pvt. Ltd 6. Shakti Engineers 7. Tolani Projects Pvt. Ltd
11.	List of Bidders Whose PBO has been Approved by GAIL	1. Aneri Constructions Pvt. Ltd 2. Enprocon Enterprise Ltd., Ahmedabad 3. Harsha Infrapower Pvt. Ltd 4. Rambaran Singh Apex Pvt. Ltd 5. RS Infrasonolutions Pvt. Ltd 6. Shakti Engineers 7. Tolani Projects Pvt. Ltd
	List of Bidders Whose Price Bid was Opened	1. Aneri Constructions Pvt. Ltd 2. Enprocon Enterprise Ltd., Ahmedabad 3. Harsha Infrapower Pvt. Ltd 4. Rambaran Singh Apex Pvt. Ltd 5. RS Infrasonolutions Pvt. Ltd 6. Shakti Engineers 7. Tolani Projects Pvt. Ltd
	Status of Bidders	Bidder have submitted their Price Bid
	Validity of bid (3 months) i.e. till 25.8.2022	Complied by the bidder
	Cost Estimate	As per Annexure I



**AWARD RECOMMENDATION
LAYING TENDER FOR PCL TALOJA CONNECTIVITY**

	Completion Period	Completion schedule shall be 8 Months and 15 Days from date of Fax of Acceptance for mechanical completion including mobilization period of 15 days and thereafter 15 days for drying, commissioning and Gas - In.
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B. APPROVAL FOR PRICE BID OPENING

Based on the techno-commercial evaluation of the bids, PBO recommendation was forwarded to GAIL vide Email Dated 22.6.2022 for opening the price bid of above mentioned techno-commercially qualified bidders. GAIL's approval for Price Bid opening was received by email dtd. 1.7.2022 for opening of price bid. Accordingly, intimation was sent to the bidder through email dated 1.7.2022 for attending the price bid opening, scheduled at 17 Hrs on 1.7.2022 through Video Conference. The price bid was opened on schedule date & time.

C. PRICE EVALUATION OF BIDS

Price bid evaluation has been done as per tender conditions.

The evaluation has been done based on clause no. clause no. 32 of ITB Section-II of tender document.

D. EVALUATED PRICE OF BIDDERS

Sl.No	Bidder Name	Amount INCLUSIVE OF EXTENDED DAY COMPENSATION (INCLUSIVE OF ALL TAXES AND DUTIES AND GST	Bid Rank
1	HARSHA INFRA POWER PRIVATE LIMITED	7,04,18,107.96	L1
2	RAMBARAN SINGH APEX PRIVATE LIMITED	10,49,56,020.40	L2
3	R S INFRASOLUTIONS PRIVATE LIMITED	10,52,50,806.82	L3
4	TOLANI PROJECTS PVT LTD	11,92,60,129.08	L4
5	Enprocon Enterprise Limited	11,96,74,136.80	L5
6	ANERI CONSTRUCTION PRIVATE LIMITED	12,85,13,020.02	L6
7	SHAKTI ENGINEERS	14,68,58,150.80	L7

E.
F.
G.



**AWARD RECOMMENDATION
LAYING TENDER FOR PCL TALOJA CONNECTIVITY**

E. COMPARISON OF L1 PRICE WITH COST ESTIMATE

Sl. No.	Description	L1 BIDDER PRICE INCLUSIVE OF EXTENDED DAY COMPENSATION (INCLISIVE OF ALL TAXES AND DUTIES AND GST)	COST ESTIMATE INCLUSIVE OF EXTENDED DAY COMPENSATION (INCLISIVE OF ALL TAXES AND DUTIES AND GST)	VARIANCE	L1 Bidder
1.	Comparison of L1 Price with Cost Estimate	7,04,18,107.96	16,73,65,724.19	(-) 57.93%	Harsha Infra Power Pvt. Ltd.

L1 Price is 57.93 % less than the Cost Estimate. Cost Estimate is based on the price quoted by bidder for similar scope of work in GAIL Tenders. Hence Cost Estimate is correct and as per current market trends. Bidder has quoted very competitive rates to secure the order.

H. REPRESENTATION FROM MANSI GANGA BUILDERS & ENGINEERS PVT. LTD

On 1.7.2022 one of their staff named Ms. Prathiksha Singh had called and informed that they have received an email from NIC Portal stating that they are disqualified from this Tender. She also informed that they want to know on what ground they have disqualified since they have not received any email queries for clarification. When it was informed her that 2 mails had already been sent to them on 11th June and 15th June in the email ID provided by bidder in Form F-1, she informed that that email is of Director and it is not attended on a daily basis and she asked for another chance to submit the replies. Further M/s. Mansi Ganga Builders and Engineers Pvt. Ltd. vide their email dtd. 1.7.2022 has informed that they have not received any TQ_CQ and hence their disqualification is not justified. As mentioned above TQ_CQ was sent to the bidder on 11th June on the email id provided by the bidder in Form F-1 of Tender and since there was no reply received from them, another reminder was sent on 15th June stating that if reply is not received on the same day itself their bid will be processed with available documents. Also calls made to bidder on the number provided in Form F-1 also went unanswered. Since there was no response from bidder, they were disqualified. Hence bidder's accusation that they have not received any queries and TQ_CQ was not sent to them is unfounded.

I. PUBLIC PROCUREMENT POLICY

Not applicable in this Tender.

J. RECOMMENDATION

Based on the above evaluation and tender clause No. 32 of ITB we hereby conclude as follows;

PO may be placed on L1 Bidder M/s. Harsha Infra Power Pvt. Ltd. as detailed hereunder;

Amount exclusive of GST and Extended day compensation: 5,96,51,362.68

Amount inclusive of GST @18% and excluding Extended compensation : 7,03,88,607.96

Extended day compensation per month exclusive of GST: 25,000.00



**AWARD RECOMMENDATION
LAYING TENDER FOR PCL TALOJA CONNECTIVITY**

Extended day compensation per month inclusive of GST@18%: 29,500.00

For Lyons Engineering Pvt.Ltd.

A handwritten signature in blue ink, appearing to read 'M Girish Kumar', is written over a light blue rectangular background.

**M GIRISH KUMAR
General Manager – C&P**

Tender Inviting Authority: GAIL (India) Ltd.

Name of Work: CONSTRUCTION OF STEEL PIPELINE AND ASSOCIATED FACILITIES FOR CONNECTIVITY TO M/S VERDHAMAN SPECIAL STEEL LIMITED- LUDHIANA, PUNJAB

Contract No:

SCHEDULE OF WORK / ITEM(S)																					
Sl.No	Description of Work / Item(s)	No. of Qty	Units	HARSHA INFRA POWER PRIVATE LIMITED(GSTN-NA)		ANERI CONSTRUCTION PRIVATE LIMITED(GSTN-NA)		TOLANI PROJECTS PVT LTD(GSTN-NA)		SHAKTI ENGINEERS(GSTN-NA)		RAMBARAN SINGH APEX PRIVATE LIMITED(GSTN-NA)		Enprocon Enterprise Limited(GSTN-NA)		R S INFRASOLUTIONS PRIVATE LIMITED(GSTN-NA)		COST ESTIMATE		VARIANCE	AHR
				Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount				
1.00	SECTION-A (MAIN LINE WORKS)																				
2.00	PIPELINE LAYING / INSTALLATION (CARBON STEEL PIPES)																				
3.00	Receiving and taking over, as defined in the specifications, handling, loading, transportation and unloading of Owner-supplied 3-layer PE coated line pipes along with associated fittings and valves 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 line pipes, at the time of taking over, laying / installation of coated line pipes, associated fittings (J,barred tee etc) and accessories, including execution of all works, taking over, handling, including loading and unloading, arrangement of all additional land required for Contractor's storage, fabrication, procurement and supply of all 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 (EIC), including, but not limited to, carrying out following works:																				
4.00	Staking and installation of construction markers, clearing, fencing, grubbing, full filling all the requirements of various statutory / environment authorities to the entire satisfaction of concerned authorities. Shifting of all obstructions within the ROU / pipeline route alignment, viz. electrical lines / poles, telephone lines / poles, coordination with concerned authorities and obtaining permissions from these authorities.																				
5.00	Trenching to all depths by excavation in all types of soils except hard rock, chiselling or otherwise cutting different types of pavement, footpath, roads etc. as required and storing excavated soil, reusable materials at designated area as directed by Engineer in charge and to a width to accommodate the pipeline and optical fibre conduit as per the relevant standard / specification etc. [The minimum depth of the top of pipeline shall be 1.0m measured from top of pipeline coating to the top of undisturbed surface of the soil or as per Special Condition of Contract (SCC) / OISD - 141 / OISD - 226]. Dewater of trenches if required as per site condition. Note : Extra payment on account of excavation in hard rock will be as per SOR Item No. A00120 based on actual measurement for hard rock encountered as certified by the EIC.																				
6.00	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.																				
7.00	Stringing of line pipes along ROU including providing straw / sand / soft soil bags, soft padding / sand padding.																				
8.00	Checking, cleaning, aligning, bending, cutting and bevelling (as required) of pipes for welding & field adjustments including pipe fittings, welding, carrying out non-destructive testing of welds as required including 100% radiography by X ray/Gamma ray as per specifications in piping of all types and thickness and providing all requisite equipment, labour, supervision, materials, films, consumables, all facilities & personnel to process, develop, examine and interpret radiographs & other tests as required, carrying out repairs of weld-joints found defective by EIC, carrying out re-radiography and other tests as required on repaired joints, etc. as mentioned in SCC and particular job specifications.																				
9.00	Installation of carrier line pipe at all crossings viz road, cartrack, pathway, drain, nallah & minor water crossings, etc. at designated depth by open cut (including laying of casing pipe) (except at HDD / Boring cased crossings which is covered separately elsewhere in this SOR).																				
10.00	Coating of all weld joints, long radius bends, etc.																				
11.00	Installation / lowering the pipeline in trench to required depth, placement of PE / PVC warning mat over the pipeline along the complete route, pre-padding and post padding around pipeline (as per standard) with soft soil/sand including supply of padding material/rock shield, PE / PVC warning mat, backfilling with available / borrowed earth, approved excavated material and/or other suitable soil by crowning.																				
12.00	Supply and installation of slope breakers, bank protection, wherever required and as directed by EIC.																				
13.00	All tie-in, including the tie-ins with adjacent section of the pipeline.																				

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30.00	Bends (R = 6D) 4" NB, 6.4 mm W.T. X42 Angle - 46" to 60"	2.00	Nos.	3200.00	6400.00	33460.00	66920.00	15000.00	30000.00	8500.00	17000.00	35000.00	70000.00	40000.00	80000.00	10400.00	20800.00	9909	19,818.00	-67.71%	
31.00	Bends (R = 6D) 4" NB, 6.4 mm W.T. X42 Angle - 61" to 90"	2.00	Nos.	3200.00	6400.00	35990.00	71980.00	15000.00	30000.00	9000.00	18000.00	40000.00	80000.00	45000.00	90000.00	10400.00	20800.00	9909	19,818.00	-67.71%	
32.00	Note : The quantities of LR Bends may vary. For final quantity, approval shall be taken by EIC before order.																				
33.00	INSTALLATION OF CARRIER PIPE CROSSINGS BY HDD METHOD AT CROSSING WITHOUT CASING PIPE IN all types of soils, soft rock/murram except hard rock																				
34.00	Complete work of installation of carrier pipe at crossings (between the limits as defined in approved drawings. Drawing preparation and obtaining the approval on the same is included in the scope of Contractor) by HDD method for roads, nallahs, drains and canals, wherever required, in all types of soils i.e. normal soil/soft rock/murram etc. except hard rock, including "receiving and taking over" Owner-supplied 3-layer PE coated line pipes from Owner's designated place of issue / dump-site(s) and transportation to Contractor's stock-yard / workshop / work-site including all handling loading, unloading, aligning, etc. supply of all Contractor-supplied materials, manpower, equipment, consumable, other resources and acquiring the required land for storage, fabrication, including string preparation of pipes, welding, welding repair, radiography, coating of field joints with special type Heat Shrink Sleeve and repair of pipeline coating with special repair patch materials as per specification, strapping of HDPE conduit with main pipeline for laying / blowing of OFC cables, pre-testing, etc. of complete string made for crossing access for Contractor, etc. and execution of, but not limited to, following works in accordance with the specifications and instructions of EIC, and as per all provisions of Contract Document."																				
35.00	Pre-construction survey based on site-visit, carrying out all additional topographical, hydrological & geo-technical surveys as required for design & construction of crossing, collection of data (if reqt) / from concerned authority including design & detailed engineering and making of crossing drawings for getting their approval from concerned authority / EIC, getting work permit / NOC for crossings as well as utility crossings (if any) encountered during crossings prior to start the execution of work.																				
36.00	Drilling to required depth including maintenance of drill hole in all types of strata (in all types of soils i.e. normal soil/soft rock/murram etc. except hard rock), all depth to accommodate the pipeline at all conditions encountered during crossing by approved HDD methods procedure for providing minimum cover specified in code / specification or as decided by concerned authority, whichever is more.																				
37.00	Backfilling of the ditch / trench including restoration and cleanup of area and all other works including cleaning, final hydrotesting, etc. alongwith mainline works (as mentioned in clause no. A00100 above) required as per specification, approved drawings, calculations, methods and to the satisfaction of EIC and / or as directed by concerned authority.																				
38.00	Installation of 4" NB 3LPE Coated Carbon Steel Pipeline by HDD (Applicable for any Crossing by HDD method, Single section length upto 500 Meter)	2000.00	Meter	1290.00	2580000.00	4500.00	9000000.00	6000.00	12000000.00	10000.00	20000000.00	4900.00	9800000.00	5700.00	11400000.00	2900.00	5800000.00	15000	3,00,00,000.00	-91.40%	
39.00	Installation of 4" NB 3LPE Coated Carbon Steel Pipeline by HDD (Applicable for Majore Crossing by HDD Single section length beyond 500 Meter)	1000.00	Meter	1350.00	1350000.00	5500.00	5500000.00	8500.00	8500000.00	13000.00	13000000.00	8900.00	8900000.00	9900.00	9900000.00	6500.00	6500000.00	25900	2,59,00,000.00	-94.79%	
40.00	Note: (1) The length mentioned in SOR is indicative for all the crossing to be done by HDD & locations shall be decided by GAIL / Consultant prior to start of job depending upon site condition; (2) Payment for the length of final tied in carrier pipeline string with mainline laid by HDD are inclusive in this above item rate. No any separate payment shall be made under other clauses mentioned elsewhere.																				
41.00	INSTALLATION OF CARRIER PIPE CROSSINGS BY HDD METHOD AT CROSSING WITHOUT CASING PIPE IN HARD ROCK																				

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55.00	Liaisoning with statutory Authority /Permission issuing Authorities for obtaining routine work permit for execution of work and NOC from various Statutory Authority having jurisdiction before/during execution of work and for complying with all stipulations/ conditions and recommendation of the said Authority. Required Permission shall be arranged/obtained by the Owner. (Note :- Payment shall be based on the actual length of pipeline laid).	3000.00	Mtr.	25.00	75000.00	210.00	630000.00	100.00	300000.00	350.00	1050000.00	100.00	300000.00	80.00	240000.00	10.00	30000.00	300	9,00,000.00	-91.67%
56.00	GPRS (Ground Penetration Radar Survey) in all depth																		-	
57.00	Locate Under ground services / utilities within the pipeline route. This shall include identification of under ground utilities by scanning with electromagnetic underground services locator / ground penetrating radar followed by hand excavation to expose the utilities with permission from concerned authorities. Laying agency shall prepare a methodology for Scanning and identify the probable areas and obtain prior permission from Engineer-in charge / Client before start of work. Such ground area where utilities are identified by scanning, shall be marked with Red paint. Note: 1. These rates shall be applied only when explicitly permitted by Company.	300.00	M2	100.00	30000.00	93.00	27900.00	175.00	52500.00	600.00	180000.00	100.00	30000.00	150.00	45000.00	50.00	15000.00	100	30,000.00	0.00%
58.00	INSTALLATION OF CARRIER PIPE CROSSINGS BY MOILING METHOD AT CROSSING WITHOUT CASING PIPE																		-	
59.00	Complete work of installation of carrier pipe at crossings (between the limits as defined in approved drawings) by moiling method for roads, nullahs, drains and Factory Gates etc., wherever required, in all types of soils, soft rock/ murrum. This includes "receiving and taking over" Owner-supplied 3-layer PE coated line pipes from Owner's designated place of issue / dump-site(s) and transportation to Contractor's stock-yard / workshop / work-site including all handling loading, unloading, aligning, etc. supply of all Contractor-supplied materials, manpower, equipment, consumable, other resources and acquiring the required land for storage, fabrication, including string preparation of pipes, welding, welding repair, radiography, coating of field joints with special type Heat Shrink Sleeve and repair of pipeline coating with special repair patch materials as per specification, strapping of HDPE duct as the case may be with main pipeline for laying / blowing of OFC cables, pre-testing, etc. of complete string made for crossing access for Contractor, etc. and execution of, but not limited to, following works in accordance with the specifications and instructions of EIC, and as per all provisions of Contract Document."																		-	
60.00	Pre-construction survey based on site-visit, carrying out all additional topographical, hydrological & geo-technical surveys as required for design & construction of crossing, collection of data (if reqd.) from concerned authority including design & detailed engineering and making of crossing drawings for getting their approval from concerned authority / EIC, getting work permit / NOC for crossings as well as utility crossings (if any) encountered during crossings prior to start the execution of work.																		-	
61.00	Drilling to required depth including maintenance of drill hole in all types of strata (in all types of soils, soft rock/ murrum), all depth to accommodate the pipeline at all conditions encountered during crossing and providing minimum cover specified in code / specification or as decided by concerned authority, whichever is more.																		-	
62.00	Backfilling of the ditch / trench including restoration and cleanup of area and all other works including cleaning, final hydrotesting, etc. alongwith mainline works (as mentioned in clause no. A00100 above) required as per specification, approved drawings, calculations, methods and to the satisfaction of EIC and / or as directed by concerned authority.																		-	
63.00	Laying of 4" NB Carrier pipe without casing by Moiling method	200.00	Mtr	1500.00	300000.00	2150.00	430000.00	2200.00	440000.00	2000.00	400000.00	1500.00	300000.00	2000.00	400000.00	3100.00	620000.00	4383.6	8,76,720.00	-65.78%
64.00	Note: i) The length mentioned in SOR is indicative for all the crossing to be done by Moiling & locations shall be decided by GAIL / Consultant prior to start of job depending upon site condition. ii) Payment for the length of final tied in carrier pipeline string with mainline laid by Moiling are inclusive in this above item rate. No any separate payment shall be made under other clauses mentioned elsewhere.																		-	
65.00	Magnetic Cleaning & Electronic Geometric Pigging																		-	
66.00	Mobilisation/demobilisation of pigging tools, tackles, consumables, accessories, and personnel, by contractor at work-site including but not limited to magnetic pig, electronic geometry pig, and pig tracking device, temporary launcher and receiver as per specification and other provisions of bid documents, including supply equipments, materials, manpower etc. as required for geometry inspection and magnetic cleaning of section, including calibration of magnetic and caliper tools at work site, running of adequate no. of magnet pigs and electronic geometry pigs (caliper) including pig tracking at 5 to 10 km intervals, preparation of site report on pipeline, data analysis at contractors facility as per specifications and provision of Bid documents.	22660.00	Mtr.	40.00	906400.00	50.00	1133000.00	60.00	1359600.00	135.00	3059100.00	40.00	906400.00	50.00	1133000.00	160.00	3399000.00	85.8	19,44,228.00	-53.38%
67.00	CONTINUOUS CONCRETE COATING																		-	

82.00	Supply of all coating repair materials as per specification to be compatible with line pipe coating material and as per the requirements of the relevant specifications, supply of all consumables, utilities, equipment, and all manpower required, pipe cleaning and surface preparation repairing of coating defects (resulting in holiday in coating) and testing including all handling, transportation, etc. for line pipes, performing all works necessary for the completion of the works strictly in accordance with the relevant specification and instructions of Engineer-in-charge. This rate shall be applicable per sq cm of the exposed steel area.	40.00	cm2	60.00	2400.00	360.00	14400.00	80.00	3200.00	500.00	20000.00	50.00	2000.00	1000.00	40000.00	30.00	1200.00	300	12,000.00	-80.00%	
83.00	Repair of Defects in Pipes																				
84.00	Cutting and rebeveling (dents / damage in bevels exceeding 3mm in depth)	4.00	No.	5000.00	20000.00	876.00	3504.00	4000.00	16000.00	300.00	1200.00	500.00	2000.00	1000.00	4000.00	80.00	320.00	8000	32,000.00	-37.50%	
85.00	Jack out (dents in bevels ranging between 1mm and 3mm in depth)	4.00	No.	5500.00	22000.00	525.00	2100.00	4000.00	16000.00	300.00	1200.00	500.00	2000.00	1000.00	4000.00	80.00	320.00	8000	32,000.00	-31.25%	
86.00	LEAKS/ BURSTS (Attributable to Owner)																				
87.00	Major Leak/ Bursts (Detected by visual method) : All works for locating & detection of leak/ burst (occurred during hydrostatic testing) including necessary repairing/ replacing defective pipe lengths, including cutting out and removing the defective pipe, pretesting the replacement pipe, welding into mainline, and NDT of welds, repair and re-testing of defective welds, coating of welded joints, clean-up, retesting the full test section of pipeline including providing all labour, materials, consumables and inputs other than Owner supplied materials and performing all works as per drawings, specifications enclosed with the tender/ contract document and directions of Engineer-in-charge																				
88.00	Major leak (Detected by visual method) For pipeline size 219 mm (8") OD	1.00	Lumpsum	200000.00	200000.00	105000.00	105000.00	50000.00	50000.00	50000.00	50000.00	900.00	900.00	1000.00	1000.00	5000.00	5000.00	15000	15,000.00	1233.33%	AHR
89.00	Note: (1) This rate is applicable for any number of repairs required in the section for manufacturing defects in Owner supplied material only.																				
90.00	(2) 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.																				
91.00	Minor Leak (Detected by sectionalizing method) : All works for locating leak by sectionalizing or any other methods which can not be located by visual means, (occurred during hydrostatic testing) including necessary repairing/ replacing defective pipe lengths, including cutting out and removing the defective pipe, pretesting the replacement pipe, welding into mainline, and NDT of welds, repair and re-testing of defective welds, coating of welded joints, clean-up, retesting the full test section of pipeline including providing all labour, materials, consumables and inputs other than Owner supplied materials and performing all works as per drawings, specifications enclosed with the tender/ contract document and directions of Engineer-in-charge																				
92.00	Minor leak (Detected by sectionalizing method) For pipeline size 219 mm (8") OD	1.00	Lumpsum	250000.00	250000.00	120000.00	120000.00	100000.00	100000.00	50000.00	50000.00	9000.00	9000.00	1000.00	1000.00	3500.00	3500.00	4000	4,000.00	6150.00%	AHR
93.00	Note: (1) This rate is applicable for any number of repairs required in the section for manufacturing defects in Owner supplied material only.																				
94.00	(2) 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.																				
95.00	PRE-COMMISSIONING OF ENTIRE UNDERGROUND PIPELINE AND TERMINALS / STATIONS.																				
96.00	Pre-commissioning activities and pre-commissioning checks to the specified acceptance criteria, making the entire pipeline system ready for commissioning, providing assistance during the complete duration of commissioning operations, supply of all equipment, manpower, consumables (including pipe and required quantity of nitrogen for valve operations) 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.																				
97.00	Pre-commissioning Checks																				
98.00	Pre-commissioning of pipeline including terminals / stations.	2260.00	M	15.00	339900.00	21.00	475860.00	80.00	1612800.00	55.00	1246300.00	50.00	1133000.00	60.00	1359600.00	2.00	45320.00	10	2,26,600.00	50.00%	
99.00	VACCUUM DRYING																				

100.00	Complete work of carrying out drying by vacuum drying method of pipeline section including supply of manpower, equipments & consumables, 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.	22660.00	M	20.00	453200.00	90.00	2039400.00	60.00	1359600.00	60.00	1359600.00	50.00	1133000.00	75.00	1699500.00	4.00	90640.00	15	3,39,900.00	33.33%	
101.00	Drying by vacuum drying method																		-		
102.00	COMMISSIONING ASSISTANCE AND COMMISSIONING																		-		
103.00	Providing commissioning assistance to other sections and commissioning of the section including all stations and including supply of all consumables, nitrogen, all equipment, manpower, etc., complete as per requirement of specifications, other provisions of contract document and instruction of Engineer In-charge.	22660.00	M	20.00	453200.00	25.00	566500.00	50.00	1133000.00	65.00	1472900.00	10.00	226600.00	20.00	453200.00	4.00	90640.00	39	8,83,740.00	-48.72%	
104.00	Note: (1) The quantities given above against individual items are indicative and shall not be considered to be binding. The quantities may be increased, decreased or deleted at site at the time of actual execution. Procurement shall be done as per actual site condition, approved construction drawings and as per instruction of EIC. The unit rate shall be operated to work out the final payment to the contractor;																		-		
105.00	SECTION-B (MECHANICAL (PIPING & TERMINAL WORKS))																		-		
106.00	PLANT PIPING (ABOVE GROUND)																		-		
107.00	Complete Carbon Steel Piping Work with painting including all fittings, flanges and supply of all required gaskets, studs bolts & nuts, etc., as described below																		-		
108.00	Transportation of all piping items from Contractor's storage point to work site complete work of fabrication, erection, painting, testing of pipes, flanges and fittings and making ready for further commissioning / start-up of carbon steel piping of all sizes and ratings including supply of all consumables, equipment, manpower and other resources and execution of, but not limited to, the following works in accordance with relevant specifications indicated in particular job specification & scope of work indicated in SCC, drawings, specification and instructions of EIC and as per all provisions of the Contract Document.																		-		
109.00	Fabrication including cutting, edge preparation, inclusive of grinding the edges of pipes, fittings, flanges, etc. to match with the matching edges of uneven / different thickness wherever required, welding, attachment of all pipe fittings like elbows, tees, reducers. Supply of nipples, couplings, caps, plugs, gasket, stud bolts, nuts, U-clamps, etc. as required for completion of job. All fittings installation shall be paid linear meter basis under this item only.																		-		
110.00	Handling and installation of all types & size of valves including assembly of valve accessories/ Actuator, (if any) by bolting, threading or welding, supply and insertion of gaskets, nuts & bolts, nipples, tubing 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 EIC including servicing / cleaning of valve wherever required.																		-		
111.00	Installation of weldolets, sockolets, flanges, vent and drain point connection, etc., as required.																		-		
112.00	Erection including prior cleaning, lifting, placing on pipe sleepers and supports, overhead on racks, slide and at all elevations including installation, design & fabrication of all type of supports / jump-over and carrying out connected activities for all types of valves including supply & flang of gaskets, studs / bolts, nuts wherever required for all sizes, leveling, aligning, joining of flanges, blind flanges, connecting with equipment, nozzles, strainers, tie-in with existing piping / facilities, etc. tapping for inline instruments like pressure gauges, thermowells, sample connection, etc.																		-		
113.00	Design and Residual Engineering																		-		
114.00	Preparation of bill of material(BOM)																		-		
115.00	Preparation of Construction, Fabrication, GAD, Isometric and As-built drawings																		-		
116.00	Carrying out all Non-destructive testing as required except Radiography																		-		
117.00	Surface preparation before application of primer by means of sand blasting including supply of approved quality of sand, manpower, machineries, tools & tackles to achieve required roughness as per specification and as per instruction of EIC.																		-		
118.00	Painting of entire system (including aboveground all pipes fittings, flanges & accessories) suitable for Normal corrosive area environment including supply of approved paints & primers, application of primer & paints, identification lettering / numbering, color-coding, etc. as specified including rub-down & touch-up of shop primer or scrapping of shop primer wherever required by Company and providing scaffolding for all heights, etc.																		-		
119.00	Cleaning and flushing by water / compressed air, testing of the systems including hydrostatic, pneumatic and any other types of testing as specified, draining, drying by compressed air / other methods approved by Company.																		-		
120.00	Precommissioning & making operational all piping system and equipments.																		-		
121.00	Commissioning Contractor scope shall provide all necessary assistance in term of supply of manpower, equipment, tools and tackles required amount of nitrogen for purging of entire terminal piping system including equipments etc. to the company during commissioning activities.																		-		
122.00	Completion of all such work in all respects as per scope of work and as per drawings, specifications and instructions of the COMPANY and keeping the system ready in all respects for further commissioning and start-up.																		-		

123.00	12" NB Piping different grades & thickness	8.00	Mtr.	5500.00	44000.00	9000.00	72000.00	6000.00	48000.00	15000.00	120000.00	9000.00	72000.00	7500.00	60000.00	9500.00	76000.00	15000	1,20,000.00	-63.33%
124.00	8" NB Piping different grades & thickness	15.00	Mtr.	4950.00	74250.00	6000.00	90000.00	4000.00	60000.00	8000.00	120000.00	6000.00	90000.00	5500.00	82500.00	6500.00	97500.00	8000	1,20,000.00	-38.13%
125.00	4" NB Piping different grades & thickness	60.00	Mtr.	2050.00	123000.00	3900.00	234000.00	2000.00	120000.00	4500.00	270000.00	3000.00	180000.00	2500.00	150000.00	4500.00	270000.00	5000	3,00,000.00	-59.00%
126.00	2" NB Piping different grades & thickness	100.00	Mtr.	1500.00	150000.00	2010.00	201000.00	1000.00	100000.00	2500.00	250000.00	4000.00	400000.00	2000.00	200000.00	3350.00	335000.00	3500	3,50,000.00	-57.14%
127.00	1" NB Piping different grades & thickness	5.00	Mtr.	750.00	3750.00	1520.00	7600.00	500.00	2500.00	700.00	3500.00	4000.00	20000.00	2000.00	10000.00	650.00	3250.00	700.00	3,500.00	7.14%
128.00	1/2" NB Piping different grades & thickness	20.00	Mtr.	550.00	11000.00	1360.00	27200.00	400.00	8000.00	700.00	14000.00	4000.00	80000.00	2000.00	40000.00	650.00	13000.00	700.00	14,000.00	-21.43%
129.00	Note: For Hook-up works at tap-off point, Despatch & Receiving Terminal including making provision for hooking up and carrying out shutdown activities at terminals if necessary shall be paid as per SOR number B007010																			-
130.00	INSTALLATION OF VALVES																			-
131.00	INSTALLATION OF ABOVE GROUND FLANGED VALVES (BALL / PLUG / CHECK / GATE / GLOBE) AS PER DETAILS GIVEN BELOW																			-
132.00	Size - 4.0 Inch, Rating - 150#/300#/600#	1.00	Nos	30000.00	30000.00	3050.00	3050.00	2000.00	2000.00	8000.00	8000.00	8000.00	8000.00	10000.00	10000.00	6500.00	6500.00	9600	9,600.00	212.50% AHR
133.00	Size - 2.0 Inch, Rating - 150#/300#/600#	20.00	Nos	15000.00	300000.00	2000.00	40000.00	1500.00	30000.00	3000.00	60000.00	3000.00	60000.00	4000.00	80000.00	3500.00	70000.00	4000.00	80,000.00	275.00% AHR
134.00	Size - 1.0 Inch, Rating - 800#	1.00	Nos	4500.00	4500.00	1500.00	1500.00	1000.00	1000.00	1500.00	1500.00	3000.00	3000.00	4000.00	4000.00	1200.00	1200.00	1200	1,200.00	275.00% AHR
135.00	Size - 3/4 Inch, Rating - 800#	1.00	Nos	3000.00	3000.00	900.00	900.00	800.00	800.00	1500.00	1500.00	3000.00	3000.00	4000.00	4000.00	1000.00	1000.00	1000.00	1,000.00	200.00% AHR
136.00	INSTALLATION OF ABOVE GROUND BUTT WELDED/SOCKET WELDED VALVES (BALL / PLUG / CHECK / GATE / GLOBE) AS PER DETAILS GIVEN BELOW																			-
137.00	Size - 12.0 Inch, Rating - 150#/300#/600#	1.00	Nos	45000.00	45000.00	18300.00	18300.00	8000.00	8000.00	15000.00	15000.00	30000.00	30000.00	25000.00	25000.00	15500.00	15500.00	20000.00	20,000.00	125.00% AHR
138.00	Size - 8.0 Inch, Rating - 150#/300#/600#	1.00	Nos	35000.00	35000.00	10500.00	10500.00	6500.00	6500.00	8000.00	8000.00	20000.00	20000.00	18000.00	18000.00	13500.00	13500.00	15000.00	15,000.00	133.33% AHR
139.00	Size - 4.0 Inch, Rating - 150#/300#/600#	8.00	Nos	25000.00	200000.00	5500.00	44000.00	4000.00	32000.00	4000.00	32000.00	10000.00	80000.00	8000.00	64000.00	4500.00	36000.00	5000.00	40,000.00	400.00% AHR

140.00	Size - 2.0 Inch, Rating - 150W/300W/600W	20.00	Nos	17000.00	340000.00	3500.00	70000.00	2500.00	50000.00	2500.00	50000.00	4000.00	80000.00	3000.00	60000.00	3350.00	67000.00	3500.00	70,000.00	385.71%	AHR
141.00	Size - 1.0 Inch, Rating - 800W	2.00	Nos	7500.00	15000.00	2100.00	4200.00	1700.00	3400.00	2000.00	4000.00	3000.00	6000.00	2000.00	4000.00	1450.00	2900.00	1500.00	3,000.00	400.00%	AHR
142.00	Size - 3/4 Inch, Rating - 800W	18.00	Nos	5500.00	99000.00	1500.00	27000.00	1200.00	21600.00	1500.00	27000.00	2000.00	36000.00	2000.00	36000.00	1450.00	26100.00	1500.00	27,000.00	266.67%	AHR
143.00	INSTALLATION OF 'ABOVE GROUND' GAS ACTUATED VALVES AS PER DETAILS GIVEN BELOW																				
144.00	Size - 4 Inch,	2.00	Nos	18000.00	36000.00	55000.00	110000.00	10000.00	20000.00	8000.00	16000.00	15000.00	30000.00	10000.00	20000.00	35000.00	70000.00	10000.00	20,000.00	80.00%	AHR
145.00	SUPPLY OF ASSORTED PIPE, VALVES, FITTINGS AND FLANGES																				
146.00	Complete work of supply of pipes, valves, 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 scope of work, drawings, specification and instructions of EIC and as per all provisions of the Contract Document.																				
147.00	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.																				
148.00	CARBON STEEL (CS) PIPES																				
149.00	CS Pipes 2" NB Sch XS API 5L, Gr.B, Seamless, BE / A 106 Gr.B.	100.00	Mtr.	1750.00	175000.00	1953.00	195300.00	1500.00	150000.00	2500.00	250000.00	2500.00	250000.00	2000.00	200000.00	1800.00	180000.00	2500.00	2,50,000.00	-30.00%	
150.00	CS Pipes 1" NB Sch 160, A 106 Gr.B.	12.00	Mtr.	1150.00	13800.00	1349.00	16188.00	1200.00	14400.00	1000.00	12000.00	2000.00	24000.00	1500.00	18000.00	1400.00	16800.00	1000.00	12,000.00	15.00%	
151.00	CS Pipes 3/4" NB Sch 160, A 106 Gr.B.	24.00	Mtr.	950.00	22800.00	899.00	21576.00	800.00	19200.00	1000.00	24000.00	1500.00	36000.00	1000.00	24000.00	1400.00	33600.00	1000.00	24,000.00	-5.00%	
152.00	VALVES																				
153.00	Supply of Butt/Socket Welded- Female (SW) Ends Ball Valves as per PMS and Data Sheet																				
154.00	Size - 0.75 Inch, 800W, SW Ends, Design Standard - BS EN ISO 17292, Floating type, Full Bore Ball Valve, Lever Operated	118.00	Nos	6700.00	790600.00	7650.00	902700.00	10000.00	1180000.00	8000.00	944000.00	8000.00	944000.00	10000.00	1180000.00	11850.00	1398300.00	8000.00	9,44,000.00	-16.25%	
155.00	Size - 1.0 Inch, 800W, SW Ends, Design Standard - BS EN ISO 17292, Floating type, Full Bore Ball Valve, Lever Operated	2.00	Nos	8500.00	17000.00	10200.00	20400.00	25000.00	50000.00	10000.00	20000.00	12000.00	24000.00	13000.00	26000.00	11850.00	23700.00	8000.00	16,000.00	6.25%	
156.00	Size - 2 Inch, 600W, BW Ends, Design Standard - BS EN ISO 17292, Floating type, Full Bore Ball Valve, Lever Operated	25.00	Nos	22500.00	562500.00	63800.00	1595000.00	45000.00	1125000.00	25000.00	625000.00	25000.00	625000.00	31000.00	775000.00	29500.00	737500.00	30000.00	7,50,000.00	-25.00%	
157.00	Size - 6 Inch, 600W, BW Ends, Design Standard - BS EN ISO 17292/API 6D, Floating type, Full Bore Ball Valve, Lever Operated	6.00	Nos	115000.00	690000.00	420101.00	2520606.00	500000.00	3000000.00	250000.00	1500000.00	90000.00	540000.00	100000.00	600000.00	325000.00	1950000.00	222330.2	13,33,981.20	-48.28%	
158.00	Supply of Globe Valves as per PMS and Data Sheet																				
159.00	Size - 2 Inch, 600W, Flange Ends, Design Standard - BS EN ISO 15761,	2.00	Nos	15500.00	31000.00	45600.00	91200.00	52000.00	104000.00	27000.00	54000.00	25000.00	50000.00	30000.00	60000.00	24250.00	48500.00	25000.00	50,000.00	-38.00%	

160.00	Supply of Plug Valves as per PMS and Data Sheet																		-	
161.00	Size - 0.75 Inch, 800#, SW Ends, Design Standard - BS 5353	1.00	Nos	5700.00	5700.00	8700.00	8700.00	21000.00	21000.00	8000.00	8000.00	15000.00	15000.00	14000.00	14000.00	11850.00	11850.00	12000	12,000.00	-52.50%
162.00	Size - 1 Inch, 800#, SW Ends, Design Standard - BS 5353	1.00	Nos	7200.00	7200.00	11550.00	11550.00	29000.00	29000.00	10000.00	10000.00	15000.00	15000.00	18000.00	18000.00	13950.00	13950.00	14000	14,000.00	-48.57%
163.00	Size - 2 Inch, 600#, Flange Ends, Design Standard - BS EN ISO 15761,	2.00	Nos	18000.00	36000.00	57600.00	115200.00	71000.00	142000.00	25000.00	50000.00	30000.00	60000.00	35000.00	70000.00	22850.00	45700.00	16700	33,400.00	7.78%
164.00	Size - 2 Inch, 600#, BW, Design Standard - BS EN ISO 15761,	22.00	Nos	21500.00	473000.00	63800.00	1403600.00	71000.00	1562000.00	25000.00	550000.00	30000.00	660000.00	32000.00	704000.00	29500.00	649000.00	22000	4,84,000.00	-2.27%
165.00	FLANGES																		-	
166.00	Supply of SW Raised Face (SWRF) Flanges as per details below:																		-	
167.00	Size - 2 Inch, 600#, Thk/Sch - XS, Material - ASTM A105, Face/Finish - RF/125AARH, Dimn. Std. - ASME B16.5	4.00	Nos	2750.00	11000.00	2701.00	10804.00	1200.00	4800.00	2200.00	8800.00	2500.00	10000.00	3000.00	12000.00	1950.00	7800.00	2000.00	8,000.00	37.50%
168.00	Size - 1.0 Inch, 600#, Thk/Sch - XS, Material - ASTM A105, Face/Finish - RF/125AARH, Dimn. Std. - ASME B16.5	4.00	Nos	1150.00	4600.00	1523.00	6092.00	1000.00	4000.00	1500.00	6000.00	1000.00	4000.00	1500.00	6000.00	1100.00	4400.00	1000.00	4,000.00	15.00%
169.00	Size - 3/4 Inch, 600#, Thk/Sch - 160, Material - ASTM A105, Face/Finish - RF/125AARH, Dimn. Std. - ASME B16.5	6.00	Nos	950.00	5700.00	1156.00	6936.00	1000.00	6000.00	600.00	3600.00	500.00	3000.00	1000.00	6000.00	950.00	5700.00	1000.00	6,000.00	-5.00%
170.00	Supply of Raised Face Blind Flanges (BLRF) as per details given below:																		-	
171.00	Size - 1.0 Inch, 600#, Material - ASTM A105, Face/Finish - RF/125AARH, Dimn. Std. - ASME B16.5	2.00	Nos	2250.00	4500.00	1398.00	2796.00	2000.00	4000.00	800.00	1600.00	1500.00	3000.00	2000.00	4000.00	810.00	1620.00	550.5	1,101.00	308.72% AHR
172.00	Size - 3/4 Inch, 600#, Material - ASTM A105, Face/Finish - RF/125AARH, Dimn. Std. - ASME B16.5	2.00	Nos	750.00	1500.00	1056.00	2112.00	1000.00	2000.00	600.00	1200.00	800.00	1600.00	1000.00	2000.00	680.00	1360.00	440.4	880.00	70.30% AHR
173.00	FITTINGS																		-	
174.00	Supply of R=1.5D 90o BW Elbow as per details given below:																		-	
175.00	Size - 1.0 Inch, Thk/Sch - XS, Material - ASTM A 105, Dimn. Std. - ASME B 1611	1.00	Nos	750.00	750.00	445.00	445.00	2200.00	2200.00	600.00	600.00	2000.00	2000.00	2500.00	2500.00	415.00	415.00	600.00	600.00	25.00%
176.00	Size - 3/4 Inch, Thk/Sch - 160, Material - ASTM A 105, Dimn. Std. - ASME B 16.11	1.00	Nos	550.00	550.00	330.00	330.00	2000.00	2000.00	600.00	600.00	1500.00	1500.00	2000.00	2000.00	375.00	375.00	600.00	600.00	-8.33%
177.00	Supply of BW Equal Tee as per details given below:																		-	
178.00	Size - 1 Inch, Thk/Sch - XS, Material - ASTM A 105, Dimn. Std. - ASME B 16.9	1.00	Nos	1150.00	1150.00	540.00	540.00	2800.00	2800.00	600.00	600.00	3000.00	3000.00	3500.00	3500.00	700.00	700.00	660	660.00	74.24% AHR
179.00	Size - 3/4 Inch, Thk/Sch - 160, Material - ASTM A 105, Dimn. Std. - ASME B 16.9	1.00	Nos	850.00	850.00	400.00	400.00	2500.00	2500.00	600.00	600.00	2000.00	2000.00	2000.00	2000.00	400.00	400.00	330	330.00	157.58% AHR
180.00	Supply of BW Un-equal Tee as per details given below:																		-	

181.00	Size - 2.0 Inch x 1.0 Inch, Thk/Sch - XS, Material - ASTM A 105 (CHARPY), Dimn. Std. - ASME B 16.9	1.00	Nos	1850.00	1850.00	1150.00	1150.00	2900.00	2900.00	1000.00	1000.00	3000.00	3000.00	3500.00	3500.00	1600.00	1600.00	2500.00	2,500.00	-26.00%	
182.00	Size - 2.0 Inch x 3/4 Inch, Thk/Sch - XS x 160, Material - A105 (CHARPY), Dimn. Std. - ASME B 16.9	1.00	Nos	1650.00	1650.00	1150.00	1150.00	2400.00	2400.00	1000.00	1000.00	2000.00	2000.00	2000.00	2000.00	1300.00	1300.00	2000.00	2,000.00	-17.50%	
183.00	Supply of Socketel conforming to MSS-SP-97, Material - ASTM A105 and as per details given below:																			-	
184.00	4" x 3/4", 6000#	10.00	Nos	1750.00	17500.00	755.00	7550.00	1400.00	14000.00	1500.00	15000.00	1500.00	15000.00	2000.00	20000.00	2000.00	20000.00	4000.00	40,000.00	-56.25%	
185.00	4" x 1", 6000#	1.00	Nos	1450.00	1450.00	755.00	755.00	1400.00	1400.00	1200.00	1200.00	1500.00	1500.00	2000.00	2000.00	2400.00	2400.00	4000.00	4,000.00	-63.75%	
186.00	Supply of Weldolet conforming to MSS-SP-97, Material - ASTM A105 (CHARPY) and as per details given below:																			-	
187.00	12" x 2", Thk/Sch - XS	2.00	Nos	2500.00	5000.00	1849.00	3698.00	2500.00	5000.00	8000.00	16000.00	2000.00	4000.00	2000.00	4000.00	5000.00	10000.00	8000.00	16,000.00	-68.75%	
188.00	8" x 2", Thk/Sch - XS	2.00	Nos	1950.00	3900.00	1775.00	3550.00	2500.00	5000.00	6000.00	12000.00	2000.00	4000.00	2000.00	4000.00	5000.00	10000.00	8000.00	16,000.00	-75.63%	
189.00	SUPPLY & INSTALLATION OF QOEC																			-	
190.00	Supply and installation of QOEC for ventline including all necessary piping fabrication works, including providing all necessary equipments, labour, materials, consumables and inputs other than Owner supplied materials and per forming all works as per drawings, data sheet, specifications enclosed with the Contract and directions of Engineer-in-Charge.																			-	
191.00	QOEC 2"- 600 #	2.00	Nos.	150000.00	300000.00	135520.00	271040.00	45000.00	90000.00	15000.00	30000.00	40000.00	80000.00	25000.00	50000.00	210000.00	420000.00	12000.00	24,000.00	1150.00%	AHR
192.00	Supply of Reducer (CONCENTRIC) as per details given below:																			-	
193.00	2" X 3/4" 6A1 XS x XS ASTM A 234 GR. WPB B.W, ASME B16.25	10.00	Nos	1850.00	18500.00	1330.00	13300.00	4300.00	43000.00	2500.00	25000.00	2000.00	20000.00	2500.00	25000.00	1200.00	12000.00	1200.00	12,000.00	64.17%	AHR
194.00	RADIOGRAPHY																			-	
195.00	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 EIC (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 EIC for acceptance whose decision shall be final and binding.																			-	
196.00	Radiography 2" NB	200.00	Each	950.00	190000.00	400.00	80000.00	1800.00	360000.00	800.00	160000.00	500.00	100000.00	400.00	80000.00	1000.00	200000.00	1000	2,00,000.00	-5.00%	
197.00	Radiography 4" NB	80.00	Each	1690.00	135200.00	790.00	63200.00	2000.00	160000.00	1200.00	96000.00	900.00	72000.00	800.00	64000.00	1000.00	80000.00	1400	1,12,000.00	20.71%	
198.00	Radiography 6" NB	8.00	Each	2930.00	23440.00	1450.00	11600.00	2200.00	17600.00	1500.00	12000.00	1600.00	12800.00	1600.00	12800.00	1000.00	8000.00	1800	14,400.00	62.78%	AHR
199.00	Radiography 12" NB	6.00	Each	3500.00	21000.00	2175.00	13050.00	2500.00	15000.00	2500.00	15000.00	2400.00	14400.00	2400.00	14400.00	1000.00	6000.00	2800	16,800.00	25.00%	

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200.00	HANDLING, LIFTING, TRANSPORTATION (INSTALLATION) OF EQUIPMENTS / VESSELS (Within Campus)																			-	
201.00	Handling, including lifting, transportation from Company's stores to Contractor's workshop for fabrication or/and to worksite for field fabrication, assembly of parts / sub-assemblies erection for all vessels, equipments supplied by company aboveground / underground at all elevation / depth, fixing of foundation bolts welding wherever required, aligning, grouting, hooking-up, cleaning and flushing by water, draining, drying by compressed air providing all mountings, ancillary, enabling works as required and completing in all respect as per drawings, specification and instruction of EIC. Contractor's scope shall include supply of all material and accessories including but not limited to any fixtures, clamps, gasket, nut bolts, finish coat of painting including rub-down and touch-up of shop primer / paint scrapping of shop primer / paint and further their painting after application of primer as per specification, wherever required by Company.	45.00	Ton	15000.00	675000.00	3500.00	157500.00	1500.00	67500.00	5000.00	225000.00	44100.00	1984500.00	60000.00	2700000.00	3350.00	150750.00	3500.00	1,57,500.00	328.57%	AHR
202.00	RECEIVING & TAKING OVER, HANDLING, TRANSPORTATION OF PIPES , FLANGES , FITTINGS , VALVES/ FILTERING/ METERING SKIDS/PRS /PIG TRAPS & OTHER EQUIPMENTS ETC (TERMINAL / MAINLINE MATERIAL / SURPLUS MATERIAL) - ANYWHERE IN INDIA																			-	
203.00	The Contractor shall receive and take over, Handling including lifting, Owner-supplied bare / 3 LPE Coated line pipe / Ball Valves ,Flanges , Fittings, filtering, metering, prs skid, pig traps and any other material from GAIL's designated store, inspection of material at dispatch point as well as destination point and its transportation to work-site (including transit insurance) / return of project surplus / separable material from Project site / Contractor's store to GAIL's store / warehouse including loading on trucks / trailers, transportation, unloading & stacking on wooden sleepers at Contractor's own stock-yard near work-site(s) / GAIL store (as applicable), including arrangement of truck / trailers / cranes / other material / machinery / manpower / consumables.																			-	
204.00	Transportation by Trailer Fix up to 0-50 KM (Weight up to 18 Ton) per trip	19.00	NOS	9500.00	180500.00	50000.00	950000.00	23000.00	437000.00	35000.00	665000.00	27000.00	513000.00	50000.00	950000.00	35000.00	665000.00	35000.00	6,65,000.00	-72.86%	
205.00	Transportation by Truck Fix up to 0-50 KM (Weight up to 10 Ton) per trip	2.00	NOS	11500.00	23000.00	50000.00	100000.00	25000.00	50000.00	25000.00	50000.00	21000.00	42000.00	40000.00	80000.00	30000.00	60000.00	30000.00	60,000.00	-61.67%	
206.00	Transportation by Trailer Capacity 18 Ton (49' L X 8.6' W X 7' H) Beyond 50 KM in addition to SOR Item No. B006010.	26000.00	Per KM	25.00	650000.00	101.00	2626000.00	40.00	1040000.00	600.00	15600000.00	100.00	2600000.00	150.00	3900000.00	100.00	2600000.00	35	9,10,000.00	-28.57%	
207.00	Transportation by Truck (Weight up to 10 Ton) Beyond 50 KM in addition to SOR Item No. B006020.	5000.00	Per KM	30.00	150000.00	101.00	505000.00	50.00	250000.00	500.00	2500000.00	70.00	350000.00	100.00	500000.00	28.00	140000.00	28	1,40,000.00	7.14%	
208.00	Note: (1) Transportation up to 50KM shall be paid by SOR no. B006010/B006020. Beyond 50KM transportation shall be paid by SOR no. B006030/B006040. (2) The nominal quantity of pipes, fittings and valves must be accommodated with other material like M-skid, PRS, Pig Launcher / receiver etc. if feasible. (3) 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. (4) Above price shall be exclusive GST but inclusive of all type of toll taxes & duties, transit insurance during transportation & other insurance, etc. including all financial & commercial implication as per the tender document. (5) The weightage of material may be varies as part load or full load as per the project requirement. Bidder to be quoted the price accordingly.																			-	
209.00	FIRE EXTINGUISHERS (Portable)																			-	
210.00	Supply, installation and commissioning of the following fire extinguishers																			-	
211.00	C02 (10 Kg) considered 1 no. for each locations	3.00	NOS	8500.00	25500.00	17537.00	62611.00	13000.00	39000.00	8000.00	24000.00	15000.00	45000.00	25000.00	75000.00	28000.00	84000.00	18000.00	54,000.00	-52.78%	

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212.00	10 kg capacity DCP fire extinguisher (portable) considered 1 no. for each locations	6.00	NOS	6500.00	39000.00	5060.00	30360.00	11000.00	66000.00	10000.00	60000.00	10000.00	60000.00	15000.00	90000.00	28000.00	168000.00	15000.00	90,000.00	-56.67%
213.00	6 kg capacity DCP fire extinguisher (portable) considered 1 no. for each locations	3.00	NOS	4200.00	12600.00	5060.00	15180.00	9500.00	28500.00	12000.00	36000.00	6000.00	18000.00	12000.00	36000.00	28000.00	84000.00	8000.00	24,000.00	-47.50%
214.00	4 Nos. Sand Buckets with stand & canopy considered 1 set for each location	3.00	Set	3200.00	9600.00	1686.00	5058.00	6500.00	19500.00	15000.00	45000.00	4000.00	12000.00	8000.00	24000.00	28000.00	84000.00	18000.00	54,000.00	-82.22%
215.00	Hook-up works at tap-off point, Despatch and Receiving Terminal including making provision for hooking up and carrying out shutdown activities at terminals if necessary (Above Ground)																		-	
216.00	Carbon Steel Piping Work with painting																		-	
217.00	Transportation of all piping items from Contractor's storage point to work site complete work of fabrication, erection, painting, testing and making ready for further commissioning / start-up of carbon steel piping of all sizes and ratings including supply of all consumables, equipment, manpower and other resources and execution of, but not limited to, the following works in accordance with relevant specifications indicated in particular job specification & scope of work indicated in SCC, drawings, specification and instructions of EIC and as per all provisions of the Contract Document.																		-	
218.00	Fabrication including cutting, edge preparation, inclusive of grinding the edges of pipes, fittings, etc. to match with the matching edges of uneven / different thickness wherever required, welding, attachment of all pipe fittings including supply of all consumables required for completion of job.																		-	
219.00	Supply of all manpower, equipment, etc. for completion of all works as per scope of work and as per drawings, specifications and instructions of EIC wherever required. Preparation of Construction, Fabrication, Isometric and As-built drawings Carrying out Non-destructive testing as required except Radiography.																		-	
220.00	Surface preparation before application of primer by means of sand blasting including supply of approved quality of sand, manpower, machineries, tools & tackles to achieve required roughness as per specification and as per instruction of EIC																		-	
221.00	Testing/ drying/cleaning/Golden Tie -In with existing Pipeline																		-	
222.00	Precommissioning & making operational all piping system and equipments.																		-	
223.00	Completion of all such work in all respects as per scope of work and as per drawings, specifications and instructions of the COMPANY and keeping the system ready in all respects for further commissioning and start-up.																		-	
224.00	Piping different grades & thickness	20.00	Inch- Dia	2150.00	43000.00	17210.00	344200.00	9000.00	180000.00	3000.00	60000.00	2500.00	50000.00	1500.00	30000.00	2250.00	45000.00	2500.00	50,000.00	-14.00%
225.00	INSTALLATION OF FILTERING/ METERING/ PRS SKID/ ANALYZER AND SCRAPER TRAPS																		-	
226.00	Installation of above ground owner supplied Filtering , Metering , PRS Skid, Analyzer, Pig traps and other equipment at work site up to mechanical completion in all respect, inclusive of painting suitable for Normal Corrosive Environment at all elevation , fixing of foundation bolts, welding wherever required, aligning, grouting, hooking-up, enabling works as required and completing in all respect as per drawings, specification and instruction of EIC. Contractor scope also include to provide commissioning assistance during pre-commissioning / commissioning of filtering skid/metering skid /PRS/pig trap and other equipments. Note: Installation and commissioning of Instrumentation items such as Gas Chromatograph (GC) & metering panel(flow computer panel), cable laying are separately covered under Instrumentation SCR																		-	
227.00	Installation of above ground Flanged/ Welded Scraper Traps up to mechanical completion in all respect inclusive of painting suitable for Normal Corrosive Environment	2.00	NOS	30000.00	60000.00	130000.00	260000.00	35000.00	70000.00	150000.00	300000.00	40000.00	80000.00	75000.00	150000.00	150000.00	300000.00	50000.00	1,00,000.00	-40.00%
228.00	Installation of above ground Filtering/ Metering/ Pressure Reducing Skid/Analyzer up to mechanical completion in all respect inclusive of painting suitable for Normal Corrosive Environment at various locations.	2.00	NOS	30000.00	60000.00	210000.00	420000.00	125000.00	250000.00	125000.00	250000.00	50000.00	100000.00	75000.00	150000.00	150000.00	300000.00	50000.00	1,00,000.00	-40.00%

229.00	DISMANTLING AND CLEARING OF FILTERING/ METERING/ PRS/ SKID / SCRAPER TRAPS & OTHER EQUIPMENTS																				-	
230.00	Dismantling and Clearing of old (presently installed) Skid / Scraper Traps and or other Equipments , as per instruction of EIC. Contractor scope also include to provide necessary manpower, equipments & machinery for the above work.	1.00 TON	65000.00	65000.00	35125.00	35125.00	40000.00		40000.00	25000.00	25000.00	30000.00		30000.00	25000.00	35000.00	35000.00	25000.00	25,000.00	160.00%	AHR	
231.00	NITROGEN SUPPLY																			-		
232.00	Supply of Nitrogen for preservation of Pipeline/ purging of pipeline / hookup & shut down activities .	300.00 m3	125.00	37500.00	86.00	25800.00	400.00		120000.00	275.00	82500.00	300.00		90000.00	100.00	30000.00	250.00	75000.00	250	75,000.00	-50.00%	
233.00	Note: (1) The quantities given above against individual items are indicative and shall not be considered to be binding. The quantities may be increased, decreased or deleted at site at the time of actual execution. Procurement shall be done as per actual site condition, approved construction drawings and as per instruction of EIC. The unit rate shall be operated to work out the final payment to the Contractor; a (2) Quantities given against individual item may be utilised / used for other consumers in same area.																			-		
234.00	INSTALLATION OF EQUIPMENT OTHER THAN ITEM NUMBER B008000																			-		
235.00	Installation of above ground owner supplied equipment other than listed in Item No B008000 at work site up to mechanical completion in all respect, inclusive of painting suitable for Normal Corrosive Environment at all elevation , fixing of foundation bolts, welding wherever required, aligning, grouting, hooking-up, enabling works as required and completing in all respect as per drawings, specification and instruction of EIC. Contractor scope also include to provide commissioning assistance during pre-commissioning / commissioning of equipments	1.00 TON	55000.00	55000.00	65000.00	65000.00	40000.00		40000.00	35000.00	35000.00	70000.00		70000.00	55000.00	55000.00	95000.00	95000.00	35,000.00	57.14%	AHR	
236.00	SECTION-C [CIVIL / STRUCTURAL & ARCHITECTURAL]																			-		
237.00	SURVEY WORKS																			-		
238.00	Conducting topographical ground/land survey in the specified areas as shown in the tender drawings by conventional/GPS or any other standard method, covering details of physical features like Rivers, Nallahs, Lakes, Ponds, wells, pits, Forest, Trees, Roads, culverts, transmission lines, telegraph/ telephone and electric poles, underground or any other services, cross drainage works including cross sectional details of nallah etc. including establishing high flood level with source of information, identification of any monument, historical structure, wild life sanctuary in the vicinity, storm water disposal point with levels, cross-section details of nallah, recording spot levels, including providing in tabulation girth wise no. of trees etc as specified, plotting and developing topographical contour maps, showing true north including establishing survey reference stations, key plan etc including all equipment's, instruments, personnel's, clearing of bushes as per requirement for intervisibility to carry out survey work etc., complete work in all respects as per drawings, specifications and directions of Engineer-in-Charge including submitting hard copies of drawings/map and supply of electronic files. Note: Survey work shall be carried out by survey agency approved by Contractor and shall be submitted to PMC/EIC for review.	50.00 M2	250.00	12500.00	93.00	4650.00	1800.00		9000.00	600.00	3000.00	200.00		10000.00	50.00	2500.00	500.00	25000.00	78	3,900.00	220.51%	AHR
239.00	GEO TECHNICAL INVESTIGATION																			-		
240.00	Conducting soil investigation with boring of minimum 150mm dia. boreholes of maximum 10m depth including all field tests and laboratory tests, mobilization and demobilization of equipments & personnel etc. for soil investigation for each borehole location , complete work in all respects as per drawings, specifications and directions of Engineer-in-Charge including submitting hard copies of Reports & recommendations and supply of electronic files.	2.00 each	45000.00	90000.00	45460.00	90920.00	20000.00		40000.00	55000.00	110000.00	8000.00		16000.00	10000.00	20000.00	30000.00	60000.00	50000	1,00,000.00	-10.00%	
241.00	FENCING & GATE																			-		
242.00	Supplying, fixing and tensioning in position 2.5mm(12gaugu), 2 ply, 4 points, GI Barbed wire designation A-1 conforming to IS:278 in horizontal rows and cross diagonals for compound wall "Y" shaped overhang etc. with necessary GI staples, clips and pins, GI straining bolts and binding wire with all labour and materials etc. complete as per drawings, specifications and directions of Engineer-in-Charge.(The barbed wire shall be measured in linear length of the barbed wire actually fixed).	200.00 RM	4000.00	80000.00	36.00	7200.00	1350.00		27000.00	900.00	18000.00	150.00		3000.00	150.00	3000.00	1150.00	23000.00	2300	4,60,000.00	73.91%	AHR
243.00	Supplying, fabricating and fixing in position structural steel line posts, straining posts, struts for "Y" shaped overhang etc. conforming to IS:2062 over brick/stone Masonry/ RCC compound walls/ columns, cutting to required size as per drawings and specifications, welding where necessary, embedding in position, holding to correct level and line, any auxiliary structure for dummy supports, drilling holes and painting as per painting specification attached with tender, cutting brick/rubble/concrete surfaces if necessary, grouting with M20 grade concrete including cost of grout with all labour and material etc. complete as per drawings, specifications and directions of Engineer-in-Charge. (All materials including cement shall be supplied by contractor) For Normal Industrial Environment.	700.00 KG	175.00	122500.00	145.00	101500.00	162.00		113400.00	185.00	129500.00	180.00		126000.00	160.00	112000.00	135.00	94500.00	150	1,05,000.00	16.67%	

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244.00	Supplying, fabricating and fixing G.I. chain link fencing with 3.15mm dia. wire, 50x50mm diamond mesh chain link fence fabric conforming to IS-2721 fixed to steel/RCC posts/struts above ground level, including supply of chain link fencing fabric, stretcher bars, staples, etc. required for fixing the fencing, fixing of chain link fencing between straining posts, fixing of bottom of fencing to a concrete sill beams by means of hairpin beams by means of hairpin staples, including supply and fixing line wires, complete as per drawings, specifications and directions of Engineer-in-Charge	120.00	Sqm.	950.00	114000.00	250.00	30000.00	3780.00	453600.00	2200.00	264000.00	700.00	84000.00	300.00	36000.00	450.00	54000.00	1400	1,68,000.00	-32.14%	
245.00	Providing and fixing in position Steel Entrance Gates consisting of MC- 75 framework for shutters, 20mm square M.S. vertical bars welded to the framework @100mm c/c, 5mm thick M.S. sheet boxing, locking arrangement, 25mm thick, 75mm dia M.S. wheel with ball bearing including fixing the gate to RCC/ masonry by M.S. hinge arrangement (75mm x 75mm x 6mm M.S. angles, bolt, washers) and M.S. hold fast grouted with M-15 grade concrete, providing and fixing M.S. pivot, 50mm x 50mm x 6mm M.S. Tee bent to shape and embedded in road surface for gate opening track, gate stopper, painting the gate with approved shade and quality synthetic enamel paint (two coats) and a coat of approved quality primer, ensuring smooth operation of the gate etc. all complete as per attached standard drawing	750.00	kg	250.00	187500.00	145.00	108750.00	162.00	121500.00	185.00	138750.00	150.00	112500.00	150.00	112500.00	200.00	150000.00	150	1,12,500.00	66.67%	AHR
246.00	EARTHWORK IN SITE GRADING																		-		
247.00	Earthwork in excavation and filling in all types of soil except soft rock and hard rock for general site grading for all heights and depths including clearing and stripping etc. in excavation areas, removing shrubs, grass, bushes, vegetable growth and other objectionable materials, trees upto and inclusive of a girth of 30 cms. (girth measured at a height of one metre above ground level) including uprooting of roots, etc., dewatering, if necessary, sorting out the excavated soil into serviceable and unserviceable materials in excavation areas and including filling in filling areas with serviceable material for general site grading and roads for all heights and depths to proper levels, slopes, grades and camber including clearing and stripping in filling areas as per specifications, consolidating exposed natural soil to 90% of max. laboratory dry density as per IS-2720 Part-VII, cutting of trees of girth upto and inclusive of 30 cms, removal of vegetation, breaking clods, spreading in layers not exceeding 30 cms loose thickness, watering, ramming and compacting with power road rollers to give at least 90% of max. laboratory dry density, dressing, leveling, testing, etc. and disposal of unserviceable materials/surplus earth if any, as directed by Engineer-in-Charge including stacking and/or dumping and dressing the same in demarcated areas etc. complete as per specifications, drawings and directions of Engineer-in-Charge. (The leads for the above mentioned operations shall be within the boundDSRY limit of the plant and measurement shall be taken in the cutting area only).	60.00	M3	3750.00	225000.00	214.00	12840.00	360.00	21600.00	125.00	7500.00	750.00	45000.00	450.00	27000.00	130.00	7800.00	150	9,000.00	2400.00%	AHR
248.00	PAVER BLOCK Flooring																		-		
249.00	Supplying and placing in position as per approved pattern of Cement Concrete Inter locking paver block 80 mm thick of approved shape, rough finish, M-40 strength of approved brand laid over the sand bed of minimum 100 mm thick. The CC interlocking blocks to be of uniform Grey colour or as approved by EIC complete in all respects , as per technical specifications and directions of the Engineer-in-charge Note :- 1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such paver blocks, sand, earth work in excavation in cutting earth in all conditions, shuttering with all bye works and sundry works. 2. To be read with in conjunction with Particular Job Specification 3 Supply of all materials and providing labour, tools and tackles are in contractor's scope	20.00	M2	1050.00	21000.00	683.00	13660.00	2250.00	45000.00	2800.00	56000.00	1500.00	30000.00	1200.00	24000.00	1300.00	26000.00	2200	44,000.00	-52.27%	
250.00	RCC HUMPE PIPE CULVERT																		-		
251.00	Providing, laying, jointing and testing RCC humpe pipes of 300mm dia. and np3 class for culverts, road crossing, incl. excavation in all strata up to an average depth of 1 m cutting, collars jointing in 1:2 cement mortar etc. complete as per specifications and as directed by the engineer-in-charge.	10.00	M	750.00	7500.00	3660.00	36600.00	2790.00	27900.00	0.00	0.00	4000.00	40000.00	5000.00	50000.00	4300.00	43000.00	3000	30,000.00	-75.00%	
252.00	Providing, laying, jointing and testing RCC humpe pipes of 500mm dia. and np3 class for culverts, road crossing, incl. excavation in all strata up to an average depth of 1 m cutting, collars jointing in 1:2 cement mortar etc. complete as per specifications and as directed by the engineer-in-charge.	2.00	M	10000.00	20000.00	6100.00	12200.00	4500.00	9000.00	800.00	1600.00	7000.00	14000.00	6500.00	13000.00	5800.00	11600.00	4000	8,000.00	150.00%	AHR
253.00	KERB STONE FIXING																		-		

254.00	Providing and fixing precast concrete Kerb stones (125 wide X 300 deep) of M-30 grade or equivalent of approved make and shape at or near ground level as per approved pattern and setting in position with cement mortar 1:3 (1 cement : 3 coarse sand) including the cost of required centering, shuttering and finishing smooth with 6 mm thick cement plaster 1:3 (1 cement : 3 fine sand) wherever required over 75 mm thick PCC 1:4:8 levelling course, complete in all respects as per scope of work, detailed construction drawings, technical specifications and directions of the Engineer-in-Charge. Note:- 1. Rate to include all labour, tools, tackles, factory manufactured & steam cured Kerb Stones, shuttering, transportation, water charges, earth work if any, PCC etc complete	2.00	M	12000.00	24000.00	640.00	1280.00	1000.00	2000.00	9000.00	18000.00	1000.00	2000.00	1200.00	2400.00	2500.00	5000.00	5000	10,000.00	140.00%	AHR
255.00	VALVE PIT																		-		
256.00	Supply, & Construction of Valve Pit-TYPE I (3.0m x 2.5 m x 2m) in size (internal dimension) as per attached tender drawing, technical specification and direction of Engineer-in-Charge complete in all respect.	2.00	Nos.	175000.00	350000.00	260000.00	520000.00	250000.00	500000.00	125000.00	250000.00	175000.00	350000.00	225000.00	450000.00	85000.00	170000.00	60000	1,20,000.00	191.67%	AHR
257.00	SAND FILLING																		-		
258.00	Supplying and filling approved SAND of specified quality under floors, in foundations, plinths, tank foundations etc. for all depths and heights including cost of sand, royalties, transportation to site for all leads and lifts, including loading, unloading, spreading in layers of loose thickness not exceeding 150 mm, watering, ramming, compacting with mechanical compactors and/or other equipment to the specified levels to achieve 85% relative density as per IS-2720 Part XIV, including preparation of subgrade to the required slope, providing testing apparatus and testing the degree of consolidation all complete as per drawings, specifications and direction of Engineer-in-charge. The rates shall be inclusive of the cost of all labour, material, equipments etc. all complete	80.00	M3	625.00	42000.00	950.00	76000.00	1800.00	144000.00	3000.00	240000.00	1250.00	100000.00	1000.00	80000.00	1500.00	120000.00	3000.00	2,40,000.00	-82.50%	
259.00	DEMOLITION OF R.C.C./BRICKS/STONE MASONRY/STEEL WORK																		-		
260.00	Site clearance by demolition of R.C.C./Brickwork/Stone Masonry/Stone Soling, Flexible pavements etc. along with removing the debris and disposal of unserviceable material to any lead and staking of serviceable materials, handing over serviceable material to concerned department if required as per technical specifications and direction of Engineer-in-charge. Note: 1. Rate includes cost of all labour, tools, tackles, hire charges, royalties, levies, leads, loading/unloading, transportation, water, electric power, illumination etc. complete in all respects as per scope of work, detailed construction drawings, technical specifications and direction of Engineer-in-charge. 2. Demolition of RCC/PCC/Brick Masonry/Road will be paid in NET CUM as demolished.	3.00	M3	7500.00	22500.00	1861.00	5583.00	3500.00	10500.00	2500.00	7500.00	2000.00	6000.00	2500.00	7500.00	800.00	2400.00	2500.00	7,500.00	200.00%	AHR
261.00	Site clearance by demolition of STEEL work etc. along with removing the disposal of unserviceable material to any lead and staking of serviceable materials, handing over serviceable material to concerned department if required as per technical specifications and direction of Engineer-in-charge. Note: 1. Rate includes cost of all labour, tools, tackles, hire charges, royalties, levies, leads, loading/unloading, transportation, water, electric power, illumination etc. complete in all respects as per scope of work, detailed construction drawings, technical specifications and direction of Engineer-in-charge. 2. Demolition of steel work will be paid in NET Kg as demolished.	50.00	Kg	75.00	3750.00	84.00	4200.00	150.00	7500.00	25.00	1250.00	40.00	2000.00	50.00	2500.00	20.00	1000.00	15	750.00	400.00%	AHR
262.00	ERC/IRC																		-		
263.00	Construction of ERC/IRC as per Std. including supplying and laying in position PVC pipes conforming to IS:4985 Class-I for electrical and instrumentation Road Crossings as per standard drawing and its addendum, including cutting the pipes if necessary, lowering, laying in position to proper levels, etc. embedded in M-20 grade concrete, providing proper jointing as per code requirements or manufacturer's recommendations, etc. including earth work in excavation in all types of soil except soft and hard rock, backfilling and making good the surface, including cutting of new/ existing roads and making good the same including supply of any road material if required. (Back filling with road material shall be done in 150 mm thick layers well watered and compacted), including supplying and providing in the encasement concrete, cable crossing indicator made out of 4 mm thick MS circular plate of dia. 150mm welded to 16 mm dia. MS rod of approximately 1.0 m length and painting and lettering with 2 coats of approved enamel paint of approved colour over a coat of red oxide primer etc., supply and fixing of reinforcement as per drawing, including disposal of surplus earth anywhere within plant boundary limit etc. all complete as per drawings, specifications and instructions of Engineer-in-Charge.	5.00	M	6300.00	31500.00	2000.00	10000.00	100.00	500.00	600.00	3000.00	7000.00	35000.00	7500.00	37500.00	2000.00	10000.00	280	1,400.00	2150.00%	AHR
264.00	EARTH WORK IN FOUNDATION																		-		

265.00	Earth work in Excavation below ground level for all kinds of works in ALL TYPES OF SOIL, as classified in specification for a depth upto 1.5m including removal of vegetation, shrubs and debris, cutting and dressing of sides in slopes, levelling, grading and ramming of bottoms, dewatering of accumulated water from any source and keeping the surface dry for subsequent works and disposal or stacking of excavated material within a lead of 100m, as directed including providing temporary supports to existing service lines like water pipes, sewage pipes, electric overhead and underground cables etc. all complete.	80.00	M3	255.00	20400.00	370.00	29600.00	450.00	36000.00	700.00	56000.00	300.00	24000.00	350.00	28000.00	500.00	40000.00	600	48,000.00	-57.50%	
266.00	For depth beyond 1.5m and upto & inclusive of 3.0m.	50.00	M3	350.00	17500.00	488.00	24400.00	420.00	21000.00	800.00	40000.00	350.00	17500.00	450.00	22500.00	800.00	40000.00	650	32,500.00	-46.15%	
267.00	Backfilling after execution of the WORK to proper grade and level with selected materials from available excavated soil from spoil heaps, including re-excavating the deposited soil excavated earlier, breaking clods, laying at all depths and heights in layers of thickness not exceeding 15 Cms. watering, rolling and ramming by manual methods/mechanical compactors to achieve 90% laboratory maximum dry density, dressing, trimming etc. in foundations, plinths, trenches, pits etc. all complete.	150.00	M3	300.00	45000.00	214.00	32100.00	450.00	67500.00	300.00	45000.00	125.00	18750.00	100.00	15000.00	200.00	30000.00	250	37,500.00	20.00%	
268.00	EARTHWORK IN FILLING including supply by excavating the earth from BORROW AREAS arranged by CONTRACTOR for all leads, transporting the earth from borrow area including cleaning & stripping the earth at borrow areas, breaking clods, loading, unloading and laying at all depths and heights in layers of thickness not exceeding 15 cms., watering, rolling and ramming by manual methods/mechanical compactors to achieve 90% of the maximum laboratory dry density, dressing, trimming, levelling the top surface etc. in foundations, plinths, trenches etc. all complete.	100.00	M3	550.00	55000.00	919.00	91900.00	650.00	65000.00	800.00	80000.00	500.00	50000.00	550.00	55000.00	800.00	80000.00	800	80,000.00	-31.25%	
269.00	Transporting and disposing the SURPLUS EARTH AND DEBRIS including shrubs and vegetations from construction area beyond the initial lead of 100M including re-excavating the deposited soil excavated earlier, transportation, loading, unloading, laying at all depths and heights, stacking, levelling and dressing both the area (viz. from where the earth is transported and where it is deposited) to required levels and slopes complete with all lifts as directed. For carting on the basis of truck measurements (volume of truck reduced by 50% for voids) i) Upto 1.0Km.	30.00	M3	750.00	22500.00	210.00	6300.00	150.00	4500.00	600.00	18000.00	200.00	6000.00	100.00	3000.00	150.00	4500.00	300	9,000.00	150.00%	AHR
270.00	PLAIN & REINFORCED CEMENT CONCRETE:																				
271.00	Providing and laying PLAIN CEMENT CONCRETE for all depths below and upto plinth level in foundations, drains, fillings, non-suspended floors, pavements & ramps or any other works etc. including shuttering, tamping, ramming, vibrating, curing, shuttering etc. all as specified in any shape, position, thickness and finishing the top surface rough or smooth as specified and directed all complete for concrete of nominal mix 1:4:8 by volume (1 Cement: 4 Coarse Sand: 8 Crushed Stone Aggregates/Gravels with 40mm and down size graded crushed stone aggregates.	60.00	M3	6250.00	375000.00	6588.00	395280.00	12500.00	750000.00	8000.00	480000.00	7000.00	420000.00	7500.00	450000.00	6500.00	390000.00	7200	4,32,000.00	-13.19%	
272.00	Concrete of nominal mix of 1:5:10 by volume (1 Cement :5 Coarse Sand : 10 Crushed Stone Aggregates/Gravels).	5.00	M3	6500.00	32500.00	3311.00	16555.00	12500.00	62500.00	6000.00	30000.00	6000.00	30000.00	6500.00	32500.00	5500.00	27500.00	5000	25,000.00	30.00%	
273.00	Providing and laying PLAIN CEMENT CONCRETE for all depths below and upto plinth level in foundations, drains, fillings, non-suspended floors, pavements & ramps or any other works etc. including shuttering, tamping, ramming, vibrating, curing, etc. all as specified in any shape, position, thickness and finishing the top surface rough or smooth as specified and directed all complete for concrete grade M20 with 20mm and down size graded crushed stone aggregates/Gravels.	5.00	M3	6000.00	30000.00	6588.00	32940.00	12500.00	62500.00	8000.00	40000.00	9000.00	45000.00	8500.00	42500.00	7500.00	37500.00	7500	37,500.00	-20.00%	
274.00	Providing and laying REINFORCED CEMENT CONCRETE OF M-25 GRADE with 20mm and down size graded crushed stone aggregates/gravel in SUB-STRUCTURE of all types e.g. foundations, footings, raft, beams, slabs, pile caps, retaining walls, jambs, counterforts, buttresses, trenches, manholes, pipe encasement, catchpits, drains, RCC pits, equipment/machine foundations, pedestals, pipe sleepers, columns, plinth beams, suspended floors, beams, staircases, landings, steps, brackets etc. (including single pour concreting upto 250m3), including cost of admixtures if used, providing pockets, openings, recesses, chamfering etc., wherever required, vibrating, tamping, curing and rendering if required to give a smooth and even surface etc. all complete (excluding the Cost of Reinforcement and Shuttering) for all depths below and upto plinth level in any shape, position and thickness etc. all complete as specified, shown and directed.	190.00	M3	7200.00	1368000.00	11200.00	2128000.00	12500.00	2375000.00	10500.00	1995000.00	9500.00	1805000.00	10000.00	1900000.00	8500.00	1615000.00	11000	20,90,000.00	-34.55%	

275.00	Providing and laying REINFORCED CEMENT CONCRETE OF M-25 GRADE with 20mm and down size graded crushed stone aggregates/gravel in SUPER STRUCTURE in suspended floors, slabs, beams, columns, walls including counterforts, staircases, landings, steps, facias, fins, mouldings, gutters, shelves, windowills, canopies, lintels, girders, ducts, brackets, chajjas with drip moulds, pedestals, posts, struts, equipment/machine foundations, ramps etc. (including single pour concreting upto 250m3) including cost of admixtures if used providing pockets, openings, recesses, chamfering wherever required, vibrating, tamping, curing and rendering if required to give a smooth and even surface etc. all complete (excluding the Cost of Reinforcement and Shuttering) for all heights above plinth level in any shape, position, thickness etc. all complete as specified, shown and directed.	10.00	M3	8500.00	85000.00	12078.00	120780.00	12500.00	125000.00	12500.00	125000.00	11000.00	110000.00	10500.00	105000.00	9000.00	90000.00	11000	1,10,000.00	-22.73%
276.00	Manufacturing, transporting, supplying and erecting in position Reinforced Cement Concrete PRECAST ELEMENTS such as columns, beams, cover slabs, lintels, louvers, fins, shelves etc. of M-25 grade with 20mm and down size graded crushed stone aggregates/gravel, for all leads, levels, shapes and thickness including all moulds, shuttering and centering, vibrating, tamping, curing, chamfering wherever required, finishing the top surface with cement mortar 1:3 (1 Cement : 3 Sand) to give a smooth and even surface, or non skid finish as specified, providing lifting hooks, metal inserts, making holes pockets, (only M.S. inserts to be measured & paid separately) transporting to site, erecting, levelling, aligning and fixing in position with cement mortar 1:3 (1Cement : 3 Coarse Sand), breaking bricks and/or concrete surfaces and making good the same etc. all complete (excluding the Cost of Reinforcement) and as directed. 1) Each unit upto and inclusive of 500 Kg.	3.00	M3	7000.00	21000.00	5492.00	16476.00	12500.00	37500.00	13000.00	39000.00	15000.00	45000.00	12500.00	37500.00	15000.00	45000.00	11000	33,000.00	-36.36%
277.00	CENTERING AND SHUTTERING																		-	
278.00	Providing and fixing CENTERING AND SHUTTERING in foundations, footings, raft beams, slabs, pile caps, retaining walls, jambs, counter-forts, buttresses, trenches, equipment/machine foundations, pedestals, abutments, pipe sleepers, columns, plinth beams, lintels, suspended slabs, beams, staircases, landings, steps, non-circular tunnels/bunkers/silos/ shafts/ hoppers/liquid storage structures etc. including shuttering for single pour concreting, slitting, bracing, propping etc., keeping the same in position during concreting and removal of the same after specified period etc. for Straight/ Inclined Shuttering, keeping necessary provision for inserts, projecting dowels, anchor bolts or any other fixture etc. all complete and as specified and directed.																		-	
279.00	i) For all depths below and upto & inclusive of plinth level.	650.00	M2	255.00	165750.00	549.00	356850.00	300.00	195000.00	650.00	422500.00	500.00	325000.00	450.00	292500.00	600.00	390000.00	500	3,25,000.00	-49.00%
280.00	ii) For all heights above plinth level.	350.00	M2	255.00	89250.00	549.00	192150.00	500.00	175000.00	750.00	262500.00	700.00	245000.00	500.00	175000.00	800.00	280000.00	500	1,75,000.00	-49.00%
281.00	REINFORCEMENT																		-	
282.00	Supplying and placing in position HIGH STRENGTH DEFORMED STEEL BARS REINFORCEMENT (conforming to IS:1786, Grade Fe 415), for R.C.C. work including transporting the Steel, straightening, cleaning, decolling, cutting, bending to required shapes and lengths as per details, binding with contractor's own 16 SWG black soft annealed binding wire at every intersection, supplying and placing with proper cover blocks, supports, chairs, overlaps, welding, spacers, fanhooks etc. for all heights and depths etc. all complete as directed.	20.00	MT	75000.00	1500000.00	120170.00	2403400.00	115000.00	2300000.00	95000.00	1900000.00	92000.00	1840000.00	88000.00	1760000.00	110000.00	2200000.00	95000	19,00,000.00	-21.05%
283.00	STRUCTURAL STEEL WORKS																		-	
284.00	Supplying, transporting, storing, fabricating in position and testing/examining bolted and/or welded STRUCTURAL STEEL WORKS at all levels and locations including all builtup sections/compound sections made out of rolled sections and/or plates/bent plates in trusses, purlins, wind ties, wind girders, columns, portals, racks, frameworks, crane gantries, surge girders, bracings, floor beams, lifting beams, monorails, platforms, staircases (excluding chequered plates and gratings), ladders, stoppers, brackets, side runners, sagrods, supports for equipment and technological accessories and process piping, hand railings, posts, conveyor galleries, trestles, towers, masts, junction houses etc., cutting to required size, straightening/bending if required, edge preparation, cleaning, preheating, bolting/welding of joints, (including sealing the joints of box sections with continuous welding), finishing edges by grinding, fixing in line and level with temporary staging & bracing and removal of the same after erection, grouting with Ordinary Grout or premix free flow Nonshrink Grout as specified, including preparation and submission of detailed fabrication drawings and applying primer after fabrication as per specification (for normal corrosive environment), etc. all complete	2.00	MT	85000.00	170000.00	177000.00	354000.00	115000.00	230000.00	185000.00	370000.00	145000.00	290000.00	150000.00	300000.00	150000.00	300000.00	125000	2,50,000.00	-32.00%
285.00	MISCELLANEOUS STEEL WORKS																		-	

286.00	Supplying, fabricating, fixing and keeping in position at all levels and locations THREADED ANCHOR BOLTS of all diameters and nomenclature including nuts, washers, anchor plates, pipe sleeves etc. in foundations, columns, pedestals, slabs, beams, walls etc. or any other place as directed including handling & transporting, straightening if required, turning from relevant size M.S. rounds to required diameter, threading, welding, providing necessary templates and auxiliary dummy structures, if any, necessary tying and welding with reinforcement, adjustment of shuttering & reinforcement/any other fixture, greasing exposed metal surfaces, covering bolts and packing the sleeves with jute cloth etc. all complete as specified and directed.	.20	MT	65000.00	13000.00	202825.00	40565.00	115000.00	23000.00	200000.00	40000.00	165000.00	33000.00	160000.00	32000.00	200000.00	40000.00	135000.00	27,000.00	-51.85%
287.00	Supplying, transporting, storing, fabricating and fixing in position M.S. METAL INSERT (with lugs) of any shape made out of flats, plates, rolled sections, pipes etc. providing necessary templates, staging, cutting, straightening, if required, bolting, welding as required and embedding in position on both Plain and Reinforced Cement concrete members inclusive of adjusting shuttering & reinforcement/any other fixture, welding where necessary, tying and holding to correct level, line and position, any auxiliary dummy structures to support the heavy inserts, painting exposed surfaces with a coat of Red Oxide Zinc Chromate Primer etc. all complete for all depths and heights as specified and directed.	.20	MT	100000.00	20000.00	150000.00	30000.00	115000.00	23000.00	200000.00	40000.00	165000.00	33000.00	160000.00	32000.00	200000.00	40000.00	155000.00	31,000.00	-35.48%
288.00	Supplying, fabricating and erecting in position at all levels and locations bolted, clamped and/or welded GRATING (fabricated as per standards) made out of M.S. flats/M.S. flats with M.S. rounds in walkways, platforms, stair treads etc. including cutting to required size, shape, making holes, notches, openings of required size, nosing, straightening if required, making the edges smooth, removing the burrs, fabricating clamps, fixing, welding, preparation and submission of fabrication drawings and preparing the surfaces for painting, surface cleaning, wire brushing, removal of mill scale, dust, rust, oil or grease and applying one shop coat of Red Oxide Zinc Chromate Primer after fabrication etc. all complete as specified and directed.	.20	MT	75000.00	15000.00	140300.00	28060.00	115000.00	23000.00	200000.00	40000.00	175000.00	35000.00	160000.00	32000.00	200000.00	40000.00	155000.00	31,000.00	-51.61%
289.00	Supplying, fabricating and erecting in position at all levels and locations bolted, clamped and/or welded GRATING (fabricated as per standards) made out of M.S. flats/M.S. flats with M.S. rounds in walkways, platforms, stair treads etc. including cutting to required size, shape, making holes, notches, openings of required size, nosing, straightening if required, making the edges smooth, removing the burrs, fabricating clamps, fixing, welding, preparation and submission of fabrication drawings and preparing the surfaces for painting, surface cleaning, wire brushing, removal of mill scale, dust, rust, oil or grease and applying one shop coat of Red Oxide Zinc Chromate Primer after fabrication etc. all complete as specified and directed.	.20	MT	85000.00	17000.00	140300.00	28060.00	115000.00	23000.00	200000.00	40000.00	175000.00	35000.00	160000.00	32000.00	200000.00	40000.00	150000.00	30,000.00	-43.33%
290.00	BRICK MASONRY																		-	
291.00	Providing and laying BRICK MASONRY WITH BRICKS OF CLASS 7.5 in cement mortar 1:6 (1 Cement : 6 Sand) in one or more brick thickness and in any shape (excluding circular/curved brick masonry) at all depths and height including the cost of materials, labour, scaffolding/ staging, sampling & testing, soaking of bricks, cutting and laying of bricks, providing recesses, making openings of any shape & size, finishing the joints flush below ground level and raking out the joints above ground level, sealing the gap between masonry and soffit of beam/slab, embedding the fittings & fixtures, curing, etc. all complete as per specifications.	60.00	M3	575.00	34500.00	5778.00	346680.00	6500.00	390000.00	7500.00	450000.00	9000.00	540000.00	9000.00	540000.00	8000.00	480000.00	8000.00	4,80,000.00	-92.81%
292.00	Providing and laying HALF BRICK MASONRY with bricks of CLASS 7.5 in cement mortar 1:4 (1 Cement : 4 Sand) in any shape, including the cost of materials, labour, scaffolding/staging, sampling and testing, soaking of bricks, cutting and laying of bricks, providing openings of any shape & size, raking out the joints, supplying and placing 2 Nos. 6mm dia. M.S. Bars at every fourth course, sealing the gap between masonry and soffit of beam/slab, embedding the fittings and fixtures, curing etc. all complete as per specification.ALL MATERIALS INCLUDING CEMENT SUPPLIED BY CONTRACTOR.	2.00	M2	750.00	1500.00	6527.00	13054.00	1000.00	2000.00	6500.00	13000.00	1500.00	3000.00	1750.00	3500.00	1000.00	2000.00	2000.00	4,000.00	-62.50%
293.00	External Walls Ordinary plain cement plaster Average 18mm thick 1:4 (1 cement : 4 sand). Cement supplied by the Contractor at their cost.	50.00	M2	550.00	27500.00	329.00	16450.00	450.00	22500.00	600.00	30000.00	500.00	25000.00	450.00	22500.00	400.00	20000.00	450.00	22,500.00	22.22%
294.00	Internal Walls Ordinary plain cement plaster Average 12mm thick 1:4 (1 cement : 4 sand). Cement supplied by the Contractor at their cost	50.00	M2	675.00	33750.00	195.00	9750.00	450.00	22500.00	600.00	30000.00	500.00	25000.00	350.00	17500.00	375.00	18750.00	440.00	22,000.00	53.41% AHR
295.00	Painting of Walls External walls:- Providing & applying 3 coats of waterproof decorative cement paint of approved make and approved shade, cleaning, including preparation of surfaces,base primer, curing etc. all complete	5.00	M2	550.00	2750.00	68.00	340.00	550.00	2750.00	800.00	4000.00	350.00	1750.00	250.00	1250.00	125.00	625.00	440.00	2,200.00	25.00%
296.00	Supply and installation of Porta Cabin of size (4 mtr X 3 mtr) as per drawing attached in bid document including associated civil foundation works.	1.00	Nos	200000.00	200000.00	648000.00	648000.00	450000.00	450000.00	250000.00	250000.00	275000.00	275000.00	250000.00	250000.00	350000.00	350000.00	350000.00	3,50,000.00	-42.86%
297.00	Supplying and filling of Boulders																		-	

298.00	Supplying and filling of various sizes and type of boulders as per site requirement or as per direction of EIC. Rate involves supply, transportation, unloading at site, laying, etc. to complete the work in all respect.	20.00	M3	1750.00	35000.00	1638.00	32760.00	4500.00	90000.00	5500.00	110000.00	2700.00	54000.00	4500.00	90000.00	2500.00	50000.00	4500	90,000.00	-61.11%	
299.00	SECTION-D (CATHODIC PROTECTION WORKS)																				
300.00	CATHODIC PROTECTION SYSTEM (TCP)																				
301.00	All works shall be carried out as per approved drawings and specifications. Work shall include design / residual engineering, preparation of CP schematic drawing, supply, installation, testing and commissioning of complete CP system, all related civil work, including providing foundations, supply of all materials as specified in SCC, instruments, consumables, touch-up epoxy paint as required, including supply of paint, tools, tackles, labor, transportation for satisfactory completion of work and as per directions of EIC. In addition to the items mentioned below the Contractor's scope shall include connecting the new pipelines to existing pipelines/cathode-points of TR units by means of jumpering/bonding.																				
302.00	Complete Detailed Survey, Engineering, Supply, laying, installation, termination, testing & commissioning of Cathodic Protection system complete Civil Works and all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	22.66	KM	4500.00	101970.00	25875.00	586327.50	5600.00	126896.00	25000.00	566500.00	7000.00	158620.00	8500.00	192610.00	52000.00	1178320.00	60000.00	13,59,600.00	-82.50%	
303.00	Supply, laying & testing of 600 / 1100V grade single core, stranded tinned copper conductor cables, XLPE insulated / PVC sheathed, armoured as per IS of following sizes. The work shall include excavation for cable trenching at min. 1.2 m below GL in all types of soil including rock, backfilling of cable in trenches, lugging, ferruling, making termination as per drawings & specification. Supply of all tools, tackles, consumables, etc. for completion of work, in all respect and as per directions of EIC.																				
304.00	35 mm2	200.00	Mtr.	315.00	63000.00	897.00	179400.00	900.00	180000.00	700.00	140000.00	950.00	190000.00	1000.00	200000.00	550.00	110000.00	1000.00	2,00,000.00	-68.50%	
305.00	25 mm2	300.00	Mtr.	425.00	127500.00	840.00	252000.00	826.00	247800.00	600.00	180000.00	700.00	210000.00	800.00	240000.00	450.00	135000.00	800.00	2,40,000.00	-46.88%	
306.00	10 mm2	300.00	Mtr.	395.00	118500.00	546.00	163800.00	590.00	177000.00	550.00	165000.00	450.00	135000.00	500.00	150000.00	300.00	90000.00	600.00	1,80,000.00	-34.17%	
307.00	6 mm2	350.00	Mtr.	451.00	157850.00	437.00	152950.00	472.00	165200.00	525.00	183750.00	400.00	140000.00	450.00	157500.00	300.00	105000.00	350.00	1,22,500.00	28.86%	
308.00	Making cable to pipe connections by thermit welding for following cables, including excavation for exposing pipe removal of coating / wrapping, thermit welding recasting of the area of weld by epoxy filling, holiday testing, backfilling, supply of all tool, tackles, consumables thermit weld kits & labour for satisfactory completion of work.																				
309.00	6 mm2 Cables	2.00	No.	12000.00	24000.00	2875.00	5750.00	2000.00	4000.00	2500.00	5000.00	700.00	1400.00	800.00	1600.00	240.00	480.00	250.00	500.00	4700.00%	AHR
310.00	10 mm2 Cables	2.00	No.	15000.00	30000.00	2875.00	5750.00	2000.00	4000.00	3500.00	7000.00	900.00	1800.00	900.00	1800.00	340.00	680.00	350.00	700.00	4185.71%	AHR
311.00	25 mm2 Cables	2.00	No.	17000.00	34000.00	2875.00	5750.00	2000.00	4000.00	5000.00	10000.00	1500.00	3000.00	2000.00	4000.00	440.00	880.00	450.00	900.00	3677.78%	AHR
312.00	35 mm2 Cables	2.00	No.	20000.00	40000.00	2875.00	5750.00	2000.00	4000.00	5500.00	11000.00	2000.00	4000.00	2500.00	5000.00	640.00	1280.00	650.00	1,300.00	2976.92%	AHR
313.00	Supply & installation of test station as per enclosed drawings and technical specifications. Work shall include all related civil works including foundation, termination of cables inside the test stations along with lugs & ferules sealing of cable entry space with bitumen compound supply of all materials, consumables, tools, tackles, etc. for satisfactory completion of work and as per directions of EIC.	28.00	No.	18500.00	518000.00	25875.00	724500.00	60000.00	1680000.00	25000.00	700000.00	31000.00	868000.00	30000.00	840000.00	23500.00	658000.00	24000.00	6,72,000.00	-22.92%	

314.00	Supply & installation of Zn anode at a depth of 1.5 - 2.0m on all type of soil including rock alongwith 10m tail cable of 25mm ² high conductivity, lined, stranded copper conductor, 650 / 1100V grade, XLPE insulated, armoured, PVC sheathed for grounding electrical surges in the pipeline at HT crossings. The work includes excavation, laying of Zn anode of minimum 20 Kg weight, backfilling & all related civil work, complete in all respects. The work shall also include anode to tail cable connection, cable laying and termination inside the test station.	10.00	No.	15000.00	150000.00	25875.00	258750.00	40000.00	400000.00	25000.00	250000.00	30000.00	300000.00	27500.00	275000.00	22500.00	225000.00	20000.00	2,00,000.00	-25.00%	
315.00	Supply, installation, testing and commissioning of surge diverter inside the manual test stations at terminal locations, complete in all respects as per the specifications and directions of EIC.	2.00	No.	25000.00	50000.00	66000.00	132000.00	15500.00	31000.00	25000.00	50000.00	25000.00	50000.00	25000.00	50000.00	22500.00	45000.00	15000.00	30,000.00	66.67%	AHR
316.00	Supply & installation of Mg anodes after pre-packaged with chemical backfill as per enclosed drawing. The anodes will have to be buried at a depth of 1.5 to 2m on all types of soil including rock at approved location. The work shall include all earth work, laying of anodes & cables in position and termination of cable inside test stations with lugs, shunt & variable resistors, supply of all tools, tackles, consumables, labour transportation of materials, etc. required for satisfactory completion of work and directions of EIC.	15.00	No.	18000.00	270000.00	24725.00	370875.00	35000.00	525000.00	25000.00	375000.00	20000.00	300000.00	21000.00	315000.00	21500.00	322500.00	17000.00	2,55,000.00	5.88%	
317.00	Supply, installation, testing and commissioning of spark-gap arrestors across insulating joints.	3.00	No.	25000.00	75000.00	31625.00	94875.00	32000.00	96000.00	25000.00	75000.00	40000.00	120000.00	35000.00	105000.00	27500.00	82500.00	27000.00	81,000.00	-7.41%	
318.00	Supply, installation, testing and commissioning of Electrolytic Polarization cell (as per approved design)	2.00	No.	21000.00	42000.00	178000.00	356000.00	190000.00	380000.00	70000.00	140000.00	25000.00	50000.00	27500.00	55000.00	70000.00	140000.00	70000.00	1,40,000.00	-70.00%	
319.00	Note: (1) The quantities given above against individual items are indicative and shall not be considered to be binding. The quantities may be increased, decreased or deleted at site at the time of actual execution. Procurement shall be done as per actual site condition, approved construction drawings and as per instruction of EIC. The unit rate shall be operated to work out the final payment to the contractor; (2) In each area, quantities given against individual item may be utilised / used for other consumers in same area.																				
320.00	CATHODIC PROTECTION SYSTEM (PCP)																				
321.00	Design, Engineering, Supply, Installation, Testing & Commissioning of Permanent Cathodic Protection (PCP) System (for 25 years) using LIDA single Electrodes or string (MMO) anodes with backfill, Junction Box, AJB, CJB, Cables, Monitoring System, any equipment and hardwares as per specification including Pre design surveys, Packing, Transportation to Project site, Post Commissioning Surveys of PCP system, system monitoring with other installation items required for completeness of the job. Design package including Site survey, formulae used, Design calculations, BOQ, Technical Specifications and data recording formats, Quality Assurance Control (QA/QC) methodology and submission of monitoring reports for owner evaluation, owner/consultant approved survey report, also includes all materials, equipments, consumables, start up/commissioning spares, etc., including transportation, storage of materials at site, As-built drawings, Documentation and O&M Manual.																				
322.00	Design Engineering, Soil Resistivity Measurement, Soil Chemical analysis, Testing and Commissioning of Pipeline length	22.80	KM	5500.00	124630.00	20125.00	456032.50	4500.00	101970.00	25000.00	568500.00	7500.00	169950.00	8000.00	181280.00	7900.00	179014.00	8000.00	1,81,280.00	-31.25%	
323.00	Transformer Rectifier Unit																				
324.00	Supply and Installation of GSM BASED TRU 10V/5A Transformer Rectifier Unit with operating range of 230 V AC and DC Output Rating - 10V/5A min., with GPS based current interrupter and full compliance to IEC specs exactly as per technical specification of tender document as per the detailed specifications, data sheet & approved drawings. It also including civil foundations, structural support etc. dual earthing of TR unit.	1.00	No.	180000.00	180000.00	902750.00	902750.00	560000.00	560000.00	375000.00	375000.00	450000.00	450000.00	425000.00	425000.00	298000.00	298000.00	300000.00	3,00,000.00	-40.00%	
325.00	Anode Ground Bed Assemblies (Deep well)(to be decided on the basis of soil resistivity data)																				

326.00	Supply and Installation of Deep well Anode Beds with dual anode tail cable (from top and bottom of the anode string) of suitable length upto Anode Junction Box) for permanent cathodic protection system by impressed current method to protect external surface of 3 layers PE coated pipeline,against corrosion as per specifications for minimum service life of 30 years by using deep well anode bed construction of minimum 50 meter deep with minimum 8" (200 mm) Dia MS pipe filled with Petroleum Coke Breeze of resistance ≤ 5Ω, vent pipe, dead weight & a cable string of 10 mm ² size contains minimum 6 nos. mixed metal oxide coated titanium tubular anodes of size ST 1.6/50 cm, each MMO anode has current output of 2.5 Amp and other accessories like vent pipe, Calcined petroleum coke breeze, Rigid PVC pipe of 12" (300mm) with minimum 15 mtrs in length (ie. 15 meter inactive anode bed), Nylon Rope, etc from the approved vendor as per specification.	1.00	No.	1150.00	1150.00	779700.00	779700.00	450000.00	450000.00	300000.00	300000.00	900000.00	980000.00	980000.00	1110000.00	1110000.00	350000.00	3,50,000.00	-99.67%		
327.00	Supply and Installation Anode Junction Box with all accessories (Like variable resistor, shunt, bus bar etc..)	1.00	No.	6500.00	6500.00	50600.00	50600.00	25000.00	25000.00	35000.00	35000.00	35000.00	35000.00	30000.00	30000.00	45000.00	45000.00	17000.00	17,000.00	-61.76%	
328.00	Supply and Installation Cathode Junction Box with all accessories (Like shunt, bus bar etc.)	1.00	No.	7200.00	7200.00	50600.00	50600.00	32000.00	32000.00	30000.00	30000.00	28000.00	28000.00	25000.00	25000.00	42000.00	42000.00	16000.00	16,000.00	-55.00%	
329.00	Supply and Installation Reference Electrode Junction Box/test station with all accessories	1.00	Nos.	7600.00	7600.00	31625.00	31625.00	24000.00	24000.00	25000.00	25000.00	28000.00	28000.00	25000.00	25000.00	25500.00	25500.00	30000.00	30,000.00	-74.67%	
330.00	Supply and Installation Permanent Reference Cell with Special Backfill in Cotton bag	8.00	Nos.	7900.00	63200.00	36225.00	289800.00	31000.00	248000.00	25000.00	200000.00	20000.00	160000.00	19000.00	152000.00	25500.00	204000.00	30000.00	2,40,000.00	-73.67%	
331.00	Supply & Installation of cables – Annealed high conductivity, tinned, stranded copper conductor, XLPE insulated, 650/1100 V grade, PVC/FRLS sheathed or as per specification and Miscellaneous such as termination, tagging, excavating the trench for cable laying, backfilling, etc., including the cost of all labour, materials, tools and tackles.																				
332.00	1C x 8 sqmm armoured - Potential Measurement & ref. cell cable (RE/PE to RE-JB & RE-JB to CJB)	300.00	Mtrs	26.00	7800.00	437.00	131100.00	210.00	63000.00	325.00	97500.00	400.00	120000.00	350.00	105000.00	275.00	82500.00	275.00	82,500.00	-90.55%	
333.00	10c x 2.5 sq mm measurement cable (from CJB to TRU)	250.00	Mtrs	22.00	5500.00	288.00	72000.00	210.00	52500.00	325.00	81250.00	800.00	200000.00	750.00	187500.00	490.00	122500.00	490.00	1,22,500.00	-95.51%	
334.00	1C x 35 sqmm armoured (anode & cathode header cable)	100.00	Mtrs	87.00	8700.00	897.00	89700.00	520.00	52000.00	400.00	40000.00	950.00	95000.00	900.00	90000.00	550.00	55000.00	550.00	55,000.00	-84.18%	
335.00	3C x 10 sqmm armoured conductor (AC incomer power supply cable from Main DB to TR unit - PVC/PVC, armoured)	100.00	Mtrs	96.00	9600.00	288.00	28800.00	300.00	30000.00	415.00	41500.00	800.00	80000.00	750.00	75000.00	600.00	60000.00	600.00	60,000.00	-84.00%	
336.00	Supply and Installation of pipe to cable connection by Pin Brazing Encapsulation method	20.00	Nos.	17.00	340.00	63250.00	126500.00	7000.00	140000.00	500.00	10000.00	2500.00	50000.00	3000.00	60000.00	5500.00	110000.00	4000.00	80,000.00	-99.58%	
337.00	Polarisation Coupons	2.00	Nos.	45000.00	90000.00	22425.00	44850.00	7000.00	14000.00	30000.00	60000.00	5500.00	11000.00	6000.00	12000.00	3500.00	7000.00	3500.00	7,000.00	1185.71%	AHR
338.00	Monitoring the Installed (PCP) System for three months after handing over the system. This includes monthly monitoring for PSP reading and weekly monitoring of TR unit for reading of TR parameters.	1.00	LS	100000.00	100000.00	126500.00	126500.00	180000.00	180000.00	125000.00	125000.00	75000.00	75000.00	85000.00	85000.00	70000.00	70000.00	50000.00	50,000.00	100.00%	AHR

339.00	Interference and Mitigation Survey (Solid State decoupling device, Isolating Spark gap, zinc grounding cell and Test station at HT line locations have already been installed in the existing TCP system of the pipeline). However, if any other mitigation measures required then same will be in scope of PCP contractor.	1.00	Nos.	120000.00	120000.00	132250.00	132250.00	55000.00	55000.00	100000.00	100000.00	275000.00	275000.00	250000.00	250000.00	245000.00	245000.00	25000.00	25,000.00	380.00%	AHR
340.00	Testing and commissioning of PCP system	1.00	Lot	125000.00	125000.00	126500.00	126500.00	85000.00	85000.00	150000.00	150000.00	150000.00	150000.00	125000.00	125000.00	58500.00	58500.00	60000.00	60,000.00	108.33%	AHR
341.00	CIPL Survey	22.66	km	9000.00	203940.00	8625.00	195442.50	8000.00	181280.00	8000.00	181280.00	8000.00	181280.00	8500.00	192610.00	13500.00	305910.00	15000.00	3,39,900.00	-40.00%	
342.00	DCVG Survey	22.66	km	9500.00	215270.00	8625.00	195442.50	9000.00	203940.00	8000.00	181280.00	8000.00	181280.00	8500.00	192610.00	17500.00	396550.00	20000.00	4,53,200.00	-52.50%	
343.00	Note: (1) The quantities given above against individual items are indicative and shall not be considered to be binding. The quantities may be increased, decreased or deleted at site at the time of actual execution. Procurement shall be done as per actual site condition, approved construction drawings and as per instruction of EIC. The unit rate shall be operated to work out the final payment to the contractor; (2) In each area, quantities given against individual item may be utilised / used for other consumers in same area.																				
344.00	SECTION-E [ELECTRICAL WORKS]																				
345.00	Supply, installation, testing, commissioning of Street Lighting Fixture suitable for 250W HPMV or Equivalent LED Lamps on Lighting Poles (4mtr Height) with aluminium paint complete with mounting bracket, flameproof control gear box, internal cable from fitting to junction box, flameproof fittings etc. including civil foundation with pipe inserts for cables and connecting work, with all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	1.00	Nos.	14600.00	14600.00	51750.00	51750.00	48000.00	48000.00	30000.00	30000.00	45000.00	45000.00	50000.00	50000.00	34850.00	34850.00	25000.00	25,000.00	-41.60%	
346.00	Supply, installation, testing, commissioning of Indoor Lighting Fixtures suitable for 25/35W LED Lamps for including all fixing arrangements and all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	2.00	Nos.	10400.00	20800.00	5175.00	10350.00	5500.00	11000.00	15000.00	30000.00	15000.00	30000.00	12000.00	24000.00	8750.00	17500.00	12000.00	24,000.00	-13.33%	
347.00	Supply, installation, testing, commissioning of Exhaust fans (Corrosion Proof Type) for including all fixing arrangements and all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	1.00	Nos.	4000.00	4000.00	20700.00	20700.00	20000.00	20000.00	25000.00	25000.00	15000.00	15000.00	12000.00	12000.00	14500.00	14500.00	25000.00	25,000.00	-84.00%	
348.00	Floor mounted MEDB consisting of busbar chamber, cable alley, incomer - 1 no. 200 Amp FP MCB, Auto healthy phase selector & Outgoing - 2 nos. 100 Amp FP MCB, 9 nos. 63 Amp FP MCB, 3 nos. 32 Amp FP MCB(as per technical specification, data sheet & SLD enclosed with this tender), complete with ammeter, voltmeter, energy meter, voltage selector switch, indicating Lamps etc.	1.00	Nos.	11856.00	11856.00	50878.00	50878.00	130000.00	130000.00	25000.00	25000.00	125000.00	125000.00	150000.00	150000.00	495000.00	495000.00	22000.00	22,000.00	-46.11%	
349.00	Recess/Surface mounted Indoor Lighting Panel(ILP) Consisting of 40 Amp FP MCB+ELCB as incomer and 12 nos. 10A DP MCBs as out goings.	1.00	Nos.	5600.00	5600.00	72900.00	72900.00	62000.00	62000.00	25000.00	25000.00	75000.00	75000.00	115000.00	115000.00	110000.00	110000.00	35000.00	35,000.00	-84.00%	
350.00	Recess/Surface mounted Power Panel(PP) Consisting of 63 Amp FP MCB as incomer and 9 nos. 20A DP MCBs as out goings.	1.00	Nos.	3600.00	3600.00	76840.00	76840.00	15000.00	15000.00	30000.00	30000.00	125000.00	125000.00	135000.00	135000.00	89500.00	89500.00	35000.00	35,000.00	-89.71%	
351.00	Recess/Surface mounted Outdoor Lighting Panel OLP (For External Lighting) Consisting of 40 Amp FP MCB+ELCB as incomer, Contactor, timer, A/M switch, PB, Indication Lamp etc Outgoing Through Timer: 6 Nos. 16 Amp DP MCB	1.00	Nos.	1800.00	1800.00	74750.00	74750.00	70000.00	70000.00	25000.00	25000.00	115000.00	115000.00	110000.00	110000.00	94500.00	94500.00	25000.00	25,000.00	-92.80%	
352.00	Supply, installation, testing, commissioning of Flameproof Flood Lighting Fixtures suitable for 250/400W HPMV or Equivalent LED Lamps for including all fixing arrangements on top of terrace of container and all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	1.00	Nos.	2400.00	2400.00	24725.00	24725.00	35000.00	35000.00	15000.00	15000.00	40000.00	40000.00	45000.00	45000.00	26500.00	26500.00	15000.00	15,000.00	-84.00%	

353.00	Supply, installation, testing, commissioning of Modular Switch Board for including all fixing arrangements and all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	2.00	Nos.	1000.00	2000.00	1035.00	2070.00	1000.00	2000.00	12000.00	24000.00	9000.00	18000.00	7500.00	15000.00	1650.00	3300.00	15000	30,000.00	-93.33%	
354.00	Supply, installation, testing, commissioning of wall mounted 24V DCDB for including all fixing arrangements and all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	1.00	Nos.	150.00	150.00	39200.00	39200.00	45000.00	45000.00	15000.00	15000.00	15000.00	15000.00	18500.00	18500.00	54500.00	54500.00	12000	12,000.00	-98.75%	
355.00	Supply, installation, testing, commissioning of 5/15A Switch Socket for including all fixing arrangements and all material and labour as per specifications, drawings and instruction of EIC. Work to be completed in all respects.	1.00	Nos.	100.00	100.00	1725.00	1725.00	2000.00	2000.00	25000.00	25000.00	5000.00	5000.00	6000.00	6000.00	1050.00	1050.00	8000	8,000.00	-98.75%	
356.00	Supply, installation, testing & commissioning of the complete earthing system, earth electrodes/pit, earth main ring, earthing of metering skid, electrical equipments, instrument panels, field instruments, process equipments & pipes / flanges including all associated civil work with all material & labour as per specification & drawings approved by the company. Each earthing system shall include the following.																				
357.00	65mm dia 3 Mtr. Long GI PIPE Electrode with 6mm thick chequered plate cover, display board etc	12.00	Nos.	4000.00	48000.00	36225.00	434700.00	1000.00	12000.00	30000.00	360000.00	25000.00	300000.00	20000.00	240000.00	18500.00	222000.00	1000.00	12,000.00	300.00%	AHR
358.00	600x600x3mm copper plate Electrode with 6 mm thick chequered plate cover, display board etc	4.00	Nos.	10250.00	41000.00	46000.00	184000.00	4400.00	17600.00	15000.00	60000.00	30000.00	120000.00	20000.00	80000.00	28500.00	114000.00	3000.00	12,000.00	241.67%	AHR
359.00	GI Strip (50X6) mm	300.00	Mtrs.	1500.00	450000.00	828.00	248400.00	600.00	180000.00	500.00	150000.00	750.00	225000.00	8000.00	2400000.00	325.00	97500.00	200.00	60,000.00	650.00%	AHR
360.00	GI Strip (25X6) mm	200.00	Mtrs.	885.00	177000.00	518.00	103600.00	400.00	80000.00	610.00	122000.00	400.00	80000.00	300.00	60000.00	240.00	48000.00	350.00	70,000.00	152.86%	AHR
361.00	1C 25 Sqmm PVC insulated Cu Conductor	200.00	Mtrs.	55000.00	11000000.00	541.00	108200.00	100.00	20000.00	800.00	160000.00	700.00	140000.00	600.00	120000.00	625.00	125000.00	600.00	1,20,000.00	9066.67%	AHR
362.00	10 SWG GI wire	300.00	Mtrs.	8.00	2400.00	104.00	31200.00	100.00	30000.00	900.00	270000.00	150.00	45000.00	200.00	60000.00	48.00	14400.00	250.00	75,000.00	-96.80%	
363.00	GI Wire, Copper wire, wire rope and all balance earthing material including copper strip (50 mmX 2 mm thick) jumper for flanges etc as per the specification.	2.00	Lot	1200.00	2400.00	143750.00	287500.00	150000.00	300000.00	25000.00	50000.00	20000.00	40000.00	15000.00	30000.00	32500.00	65000.00	15000.00	30,000.00	-92.00%	
364.00	Supply, laying, installation, termination, testing, commissioning of 1100 Volt PVC insulated, PVC sheathed and armoured / unarmoured cables in trenches, excavated underground / trays, pulling through pipes and its proper sealing including underground trench and supply of hume pipes for road crossing, etc. as required as per specifications and drawings approved by the company.																				
365.00	4C X 16 Sqmm Cu conductor XLPE Insulated Armoured Power Cable of 1100V Grade	100.00	Mtrs.	148.00	14800.00	25875.00	2587500.00	2000.00	200000.00	400.00	40000.00	1200.00	120000.00	1000.00	100000.00	748.00	74800.00	495.45	49,545.00	-70.13%	
366.00	4C X 6 Sqmm Cu conductor XLPE Insulated Armoured Power Cable of 1100V Grade	200.00	Mtrs.	80.00	16000.00	1159.00	231800.00	1100.00	220000.00	350.00	70000.00	650.00	130000.00	600.00	120000.00	495.00	99000.00	450.00	90,000.00	-82.22%	
367.00	3C X 2.5 Sqmm Cu conductor XLPE Insulated Armoured Power Cable of 1100V Grade	300.00	Mtrs.	30.00	9000.00	414.00	124200.00	500.00	150000.00	400.00	120000.00	450.00	135000.00	500.00	150000.00	210.00	63000.00	275.00	82,500.00	-89.09%	
368.00	SECTION-F [INSTRUMENTATION WORKS]																				

369.00	Supply, Calibration and Installation of instrumentation items listed below: (For details, refer instrumentation specifications)																				-	
370.00	Pressure Gauge of different Range and rating as per site requirement Engineering , Design, Supply, testing, installation, erection and commissioning. Also supply of erection material like SS316 tube, SS316 fittings, manifold, mounting stand and all other required material Bourdon type with 2-way manifold, direct mount, 150mm dial, wetted part SS316, IP 65 rated, blow out protection and shatter proof heavy duty glass.	8.00	Nos	2500.00	20000.00	49500.00	396000.00	40000.00	320000.00	18000.00	144000.00	22500.00	180000.00	25000.00	200000.00	28500.00	228000.00	15000.00	1,20,000.00		-83.33%	
371.00	Pressure Transmitter of different Range and rating as per site requirement Engineering , Design, Supply, testing, installation, erection and commissioning. Also supply of erection material like SS316 tube, SS fittings, manifold, mounting stand and all other required material Smart HART, Ex'd, IP-65, 24 VDC 2-wire loop powered.	2.00	Nos	4270.34	8540.68	101200.00	202400.00	90000.00	180000.00	15000.00	30000.00	50000.00	100000.00	55000.00	110000.00	68500.00	137000.00	75000.00	1,50,000.00		-94.31%	
372.00	Temperature Gauge - skin type, direct mount as per site requirement Engineering , Design, Supply, testing, installation, erection and commissioning. Also supply of erection material like SS armoured capillary, mounting stand and all other required material. Skin type, direct mount, 150mm dial, wetted part SS316, IP 65 rated and shatter proof heavy duty glass.	2.00	Nos	3000.00	6000.00	34650.00	69300.00	30000.00	60000.00	7500.00	15000.00	30000.00	60000.00	25000.00	50000.00	22500.00	45000.00	75000	1,50,000.00		-96.00%	
373.00	Temperature Transmitter of different Range and rating as per site requirement Engineering , Design, Supply, Installation, Calibration, Testing & Commissioning of Temperature Transmitters including mounting of Instrument on yoke, supply of yoke, supply and erection of supports for impulse lines wherever required, supply, fabrication & installation of SS manifolds/ SS impulse lines & SS valves & fittings with supports, testing and painting of supports.	2.00	Nos	3500.00	7000.00	101200.00	202400.00	60000.00	120000.00	20000.00	40000.00	45000.00	90000.00	40000.00	80000.00	48500.00	97000.00	43447	86,894.00		-91.94%	
374.00	RTD Engineering , Design with wake frequency calculation, Supply , Installation, Calibration, Testing & Commissioning of RTD Flanged type thermowell (as per approved Piping GAD & Hookup drawings) inclusive of installation of thermowell on the piping nozzle and installation of instruments as per General Specification-Instrumentation	4.00	Nos	1500.00	6000.00	49500.00	198000.00	35000.00	140000.00	15000.00	60000.00	25000.00	100000.00	30000.00	120000.00	23450.00	93800.00	10500	42,000.00		-85.71%	
375.00	Valve Junction Box - Gas Over Oil Actuated Valve (GOOV) of different size and rating as per site requirement Installation of valve junction box and their accessories inclusive of supply of necessary cable glands, terminals and complete with cabling, glanding, termination and earthing followed by testing and commissioning of complete gas over oil actuated valve.	2.00	Nos	10500.00	21000.00	44000.00	88000.00	10000.00	20000.00	12000.00	24000.00	35000.00	70000.00	40000.00	80000.00	18500.00	37000.00	15000	30,000.00		-30.00%	
376.00	Mini Remote Terminal Unit (RTU) Design, Engineering.Power consumption, Supply, configuration, testing, installation, erection and commissioning of RTU.	1.00	Nos	50000.00	50000.00	2750000.00	2750000.00	1000000.00	1000000.00	225000.00	225000.00	180000.00	180000.00	200000.00	200000.00	1750000.00	1750000.00	1725000	17,25,000.00		-97.10%	
377.00	Wall MOUNTED Local Control Panel (LCP) Design, Engineering, Procurement, Manufacture, Testing, Inspection, Supply,Transportation, Erection, Calibration / Simulation, Loop checking & Commissioning of Local Control Panels (Free Standing type floor mounted) along with all accessories and Panel Mounted Instruments as indicated below, including supply of commissioning spares with special tools and tackles.	2.00	Nos	750.00	1500.00	810000.00	1620000.00	910000.00	1820000.00	150000.00	300000.00	165000.00	330000.00	175000.00	350000.00	398000.00	796000.00	862500	17,25,000.00		-99.91%	
378.00	Gas Detection System (GDS) Design, Engineering.Power consumption, Supply, configuration, testing, installation, erection and commissioning of gas detection system including point gas detectors,control unit and junction boxes. Gas detector control unit shall be installed inside the local control panel. Supply, Laying of cable inside the cable trench, cable tray for hardwired signals and power cables from gas sensors to gas detectors control unit including glanding, termination, ferruling, dressing etc. at both ends. Supply of cable trays, installation and erection of cable trays and, supply of erection materials, cable ferrules, cable lugs, cable tie.	2.00	Set	45000.00	90000.00	862500.00	1725000.00	1500000.00	3000000.00	275000.00	550000.00	1680000.00	3360000.00	2000000.00	4000000.00	220000.00	440000.00	402500	8,05,000.00		-88.82%	
379.00	IR type, Flame proof, IP-65, housing material SS316 without display, range 0-100% LEL point hydrocarbon gas detector.	6.00	Nos	25000.00	150000.00	287500.00	1725000.00	200000.00	1200000.00	75000.00	450000.00	165000.00	990000.00	175000.00	1050000.00	125000.00	750000.00	125000.00	7,50,000.00		-80.00%	
380.00	Hooter, electronic multi-tone, IP-65, Ex'd and epoxy coated aluminium housing material.	2.00	Nos	850.00	1700.00	28750.00	57500.00	40000.00	80000.00	50000.00	100000.00	30000.00	60000.00	25000.00	50000.00	16500.00	33000.00	16518	33,030.00		-94.85%	

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381.00	Beacon, electronic stroboscopic type, IP-65, Ex'd and epoxy coated aluminium housing material.	2.00	Nos	1500.00	3000.00	28750.00	57500.00	50000.00	100000.00	65000.00	130000.00	20000.00	40000.00	15000.00	30000.00	18500.00	37000.00	16515	33,030.00	-90.92%
382.00	Manual Call Point (MCP), electronic, 24 VDC power, IP-65, Ex'd and GRP/aluminium housing material	2.00	Nos	2000.00	4000.00	17250.00	34500.00	32000.00	64000.00	55000.00	110000.00	6000.00	12000.00	7500.00	15000.00	18500.00	37000.00	4954.5	9,909.00	-59.63%
383.00	Junction box	4.00	Nos	4500.00	18000.00	9200.00	36800.00	18000.00	72000.00	50000.00	200000.00	25000.00	100000.00	21000.00	84000.00	20000.00	80000.00	20000.00	80,000.00	-77.50%
384.00	Cables, Cables Trays and Junction boxes Supply, laying, installation, erection of signals cable from pressure transmitters, temperature transmitter to junction boxes, junction boxes to local control panel (LCP) and LCP panel to RTU including glanding, termination, ferruling, dressing etc. at both ends. Laying of cable from remote operated valve junction box to local control panel (LCP) and LCP panel to RTU including glanding, termination, ferruling, dressing etc. at both ends. Supply of cable trays, cables glands, junction boxes, erection materials, cable ferrules, cable lugs, cable tie. Installation and erection of cable trays and junction boxes Preparation of cable trench for burying cable, excavation, restoration of trench and compacting. Supply and laying of bricks and sand, pipes at all the crossings etc.																			
385.00	1P X 1.5 Sq. mm Over all Screened	600.00	Mtr	58.00	34800.00	338.00	202800.00	300.00	180000.00	225.00	135000.00	225.00	135000.00	250.00	150000.00	135.00	81000.00	300	1,80,000.00	-80.67%
386.00	1 P x 2.5 Sq. mm Over all Screened	400.00	Mtr	118.00	47200.00	407.00	162800.00	450.00	180000.00	250.00	100000.00	360.00	144000.00	400.00	160000.00	175.00	70000.00	279	1,10,000.00	-57.09%
387.00	2 P x 2.5 Sq. mm Over all Screened	250.00	Mtr	9.00	2250.00	714.00	178500.00	520.00	130000.00	275.00	68750.00	400.00	100000.00	450.00	112500.00	365.00	91250.00	349	87,250.00	-97.42%
388.00	1Q X 1.5 Sq. mm Over all Screened	80.00	Mtr	119.00	7140.00	1120.00	67200.00	700.00	42000.00	250.00	15000.00	275.00	16500.00	300.00	18000.00	220.00	13200.00	350	21,000.00	-66.00%
389.00	12P X 0.5 Sq. mm Individual Screen & Over all Screened	400.00	Mtr	152.00	60800.00	2185.00	874000.00	600.00	240000.00	300.00	120000.00	800.00	320000.00	850.00	340000.00	625.00	250000.00	500	2,00,000.00	-69.60%
390.00	6 P x 1.5 Sq. mm Over all Screened NIS cable	400.00	Mtr	148.00	59200.00	1120.00	448000.00	580.00	232000.00	315.00	126000.00	850.00	340000.00	900.00	360000.00	465.00	186000.00	550	2,20,000.00	-73.09%
391.00	12 P x 1.5 Sq. mm Over all Screened NIS cable	400.00	Mtr	196.00	78400.00	1800.00	720000.00	450.00	180000.00	325.00	130000.00	1150.00	460000.00	1200.00	480000.00	825.00	330000.00	850	3,40,000.00	-76.94%
392.00	1 T x 1.5 Sq. mm Over all Screened NIS cable	200.00	Mtr	76.00	15200.00	482.00	96400.00	700.00	140000.00	350.00	70000.00	350.00	70000.00	350.00	70000.00	178.00	35600.00	166	31,200.00	-51.28%
393.00	6 T x 1.5 Sq. mm Over all Screened	400.00	Mtr	186.00	74400.00	2475.00	990000.00	800.00	320000.00	400.00	160000.00	550.00	220000.00	600.00	240000.00	875.00	350000.00	910	3,64,000.00	-79.56%
394.00	4 P x 2.5 Sq. mm (For power supply)	150.00	Mtr	15.00	2250.00	994.00	149100.00	700.00	105000.00	415.00	62250.00	600.00	90000.00	550.00	82500.00	498.00	74700.00	450	67,500.00	-96.67%

395.00	3C X 2.5 Sq. mm Power cable	400.00	Mtr	30.00	12000.00	414.00	165600.00	700.00	280000.00	375.00	150000.00	450.00	180000.00	400.00	160000.00	198.00	79200.00	787.62	3,15,048.00	-86.19%
396.00	2C X 1.5 Sq. mm Power cable	300.00	Mtr	22.00	6600.00	271.00	81300.00	700.00	210000.00	350.00	105000.00	300.00	90000.00	300.00	90000.00	128.00	38400.00	156	46,800.00	-85.90%
397.00	Serial communication cable, Modbus RS - 485, PVC Sheathed, 4 pair	60.00	Mtr	150.00	9000.00	920.00	55200.00	800.00	48000.00	350.00	21000.00	250.00	15000.00	250.00	15000.00	395.00	23700.00	800	48,000.00	-81.25%
398.00	Junction Box Flameproof Junction box as per specification with Plug and suitable for cable entries of single pair and multi pair cable as per the Instrument cable schedule	3.00	Nos	8000.00	24000.00	32200.00	96600.00	18000.00	54000.00	25000.00	75000.00	25000.00	75000.00	18000.00	54000.00	21500.00	64500.00	25000	75,000.00	-68.00%
399.00	Cable Trays (60 mm wide x 30 mm height)	150.00	Mtr	360.00	54000.00	1058.00	158700.00	1500.00	225000.00	700.00	105000.00	500.00	75000.00	600.00	90000.00	295.00	44250.00	600	90,000.00	-40.00%
400.00	Cable Trays (100 mm wide x 30 mm height)	100.00	Mtr	401.00	40100.00	1553.00	155300.00	1500.00	150000.00	1000.00	100000.00	800.00	80000.00	750.00	75000.00	425.00	42500.00	800	80,000.00	-49.88%
401.00	Cable Trays (300 mm wide x 30 mm height)	50.00	Mtr	540.00	27000.00	3705.00	185250.00	3000.00	150000.00	1100.00	55000.00	1600.00	80000.00	1200.00	60000.00	840.00	42000.00	800	40,000.00	-32.50%
402.00	Multi cable Transit (MCT) block with stay plate and module as per the approved datasheet	3.00	Nos	15000.00	45000.00	103500.00	310500.00	60000.00	180000.00	1500.00	4500.00	8000.00	24000.00	5000.00	15000.00	32500.00	97500.00	40000	1,20,000.00	-62.50%
403.00	Canopy	5.00	Nos	2000.00	10000.00	4140.00	20700.00	4500.00	22500.00	15000.00	75000.00	1600.00	8000.00	2000.00	10000.00	5800.00	29000.00	6500	32,500.00	-69.23%
404.00	Metering skid with PRS Testing & Commissioning assistance (For instrumentation part) Testing & Commissioning of telemetry interface panel (TIC), Gas Chromatograph (GC) & metering panel(flow computer panel) either in field or in control room . Laying of cables from skid JB to metering panel and /or GC panel/TIC and metering panel and /or GC panel to RTU including glanding, termination, ferruling, dressing etc. at both ends and commissioning assistance. Supply of cable trays if any, installation and erection of cable trays, cable ferrules, cable lugs, cable tie. Making of cable trench, excavation, restoration of trench, supply and installation of bricks and sand, pipes at all the crossings etc. Arrangement of nitrogen cylinders (for skid testing), PSV testing (through authorised agency).	2.00	Nos	75000.00	150000.00	1322500.00	2645000.00	120000.00	240000.00	175000.00	350000.00	50000.00	100000.00	40000.00	80000.00	225000.00	450000.00	145000	2,90,000.00	-48.28%
405.00	SECTION-G (TELECOM WORKS)																		-	
406.00	System design, inspection & factory testing, FAT, SAT, training, installation, commissioning, Trial run, pre-factory tests, packing, forwarding and supply of all goods including commissioning spares & documentation, pre-commissioning activity for telecom																		-	
407.00	Supply of 24 Fibre Composite armoured Optical Fibre Cable drum (6 fibre G-655 & 18 fibre G-652) of 4 km +/-5% Cable drum length.	23000.00	Mtr	14.50	333500.00	111.00	2553000.00	100.00	2300000.00	120.00	2760000.00	90.00	2070000.00	80.00	1840000.00	95.00	2185000.00	120.00	27,60,000.00	-87.92%
408.00	Supply of jointing closure 24 Fiber, 2 way including all accessories (3M, Siemens, Raychem make only)	15.00	Nos	6000.00	90000.00	3050.00	45750.00	3200.00	48000.00	5000.00	75000.00	6000.00	90000.00	7500.00	112500.00	3850.00	57750.00	3500.00	52,500.00	71.43% AHR
409.00	Supply of 40mm OD permanently lubricated HDPE telecom duct as per technical specifications including manufacturing, factory testing, inspection, packaging, forwarding, transportation, insurance, receipt and storage at site.	22660.00	Mtr	51.00	1155660.00	111.00	2515260.00	100.00	2266000.00	80.00	1812800.00	90.00	2039400.00	80.00	1812800.00	75.00	1699500.00	95.00	21,52,700.00	-46.32%
410.00	Telecommunication Site Work																		-	

411.00	Laying of HDPE Telecom Duct: Laying of 40mm HDPE Ducts in same pipeline trench direct buried or cased crossing through CS / HDPE conduit in all type of soil & terrain, excavated as required, padding, backfilling, etc. including supply of HDPE Duct accessories required including plastic couplers, end plugs, cable sealing plugs, end caps, etc. suitable & sufficient for above supplied ducts, cleaning and sealing of ducts at the end laid drum lengths, preparation and supply of cable blowing pit at each Km jointing of HDPE conduit, testing OD HDPE Duct and accessories after laying preparation of report and final drawing and documents as per specification, joint location marking, erection accessories, as-built, etc.	22660.00	Mtr	150.00	3399000.00	108.00	2447280.00	12.00	271920.00	40.00	906400.00	25.00	566500.00	20.00	453200.00	50.00	1133000.00	75.00	16,99,500.00	100.00%	AHR
412.00	Blowing of Optical Fibre Cable inside HDPE Duct: All activities pertaining to Blowing of Optical Fibre Cable in same pipeline trench directly (after testing drum at site), through CS / HDPE conduits along the pipeline also at crossing cable, sealing using all materials required, including laying of warning mats, etc. as per direction of EIC	22660.00	Mtr	14.00	317240.00	75.00	1699500.00	35.00	793100.00	60.00	1359600.00	45.00	1019700.00	60.00	1359600.00	50.00	1133000.00	75.00	16,99,500.00	-81.33%	
413.00	Supply and laying of GI Pipe (4") at crossings for protection of OFC / HDPE duct	150.00	Mtr	1400.00	210000.00	896.00	134400.00	2000.00	300000.00	1800.00	270000.00	1500.00	225000.00	1250.00	187500.00	1050.00	157500.00	1200.00	1,80,000.00	16.67%	
414.00	Splicing, Jointing of Optical Fiber Cable (Including Supply and Installation of jointing pits including sand, etc. & joint markers)	15.00	Nos	500.00	7500.00	9000.00	135000.00	9000.00	135000.00	8000.00	120000.00	18000.00	270000.00	20000.00	300000.00	18500.00	277500.00	15000.00	2,25,000.00	-96.67%	
415.00	Supply of FTC with pig tails other accessories for termination of OFC - 24 Fibre in the Telecom Room	2.00	Set	100000.00	200000.00	18350.00	36700.00	12000.00	24000.00	25000.00	50000.00	25000.00	50000.00	30000.00	60000.00	32500.00	65000.00	24000	48,000.00	316.67%	AHR
416.00	Installation of FTC & Wire mesh, termination of OFC on FTC / DDF inside telecom room, splicing with steel fibre, fibre test, OTDR test, power testing of laid OFC, identification of fault, rectification, earthing, final testing and commissioning, preparation of reports, etc. work complete in all respect with all necessary accessories for all location till final Handing Over and Taking Over by Owner of laid OFC.	2.00	Set	40068.00	80136.00	55016.00	110032.00	35000.00	70000.00	28000.00	56000.00	25000.00	50000.00	35000.00	70000.00	37500.00	75000.00	35000.00	70,000.00	14.48%	
417.00	Total of Section A+B+C+D+E+F+G				5,96,51,362.68		10,85,59,339.00		10,05,17,906.00		12,42,56,060.00		8,88,46,780.00		10,11,68,760.00		8,88,95,599.00		14,04,31,049.00		
418.00	GST on total of the above items in Percentage (The Quantity mentioned in this row may be ignored)	1.00	Percentage	18.00	1,07,37,245.29	18.00	1,95,40,681.02	18.00	1,80,93,223.08	18.00	2,23,66,090.80	18.00	1,59,92,420.40	18.00	1,82,10,376.80	18.00	1,60,01,207.82	18	2,52,77,588.82		
419.00	Rate of Extended Stay Compensation per month beyond the time schedule and grace period mentioned in Bidding Document for reasons solely attributable to Owner (exclusive of GST)	1.00	Month	25000.00	25,000.00	350000.00	350000	550000.00	550000	200000.00	200000	990000.00	99,000.00	250000.00	250000	300000.00	300000	1404310.48	14,04,310.48		
420.00	GST on total of the above items in Percentage (The Quantity mentioned in this row may be ignored)	1.00	Percentage	18.00	4,500.00	18.00	63000	18.00	99000	18.00	36000	18.00	17,820.00	18.00	45000	18.00	54000	18	2,52,775.89		

Total in Figures

7,04,18,107.96

12,85,13,020.02

11,92,60,129.08

14,68,58,150.80

16,49,56,020.40

11,96,74,136.80

10,52,50,606.82

16,73,65,724.19

-57.93%

Lowest Amount Quoted BY: HARSHA INFRA POWER PRIVATE

Total Item Nos.	233
Total AHR Items	55
Total Value of AHR items excluding GST	2,14,25,940.00
Recommended Contract Value excluding GST	7,04,18,107.96
AHR value as percentage of Contract Value	30.43%

M. Girish Kumar (GM - C&P)
Lyons Engineering Pvt. Ltd.
New Delhi

ANNEXURE III

CHECK LIST FOR RECOMMENDATION/ PROPOSAL FOR AWARD

Tender ref : 2022_GAIL_112213_1 LAYING TENDER FOR VARDHMAN CONNECTIVITY

Sl. No.	Description	Compliance
1.	Dealing the review of Estimate by Estimate Review Committee	GAIL to mention
2.	Summary of Price Comparison of evaluated prices & estimates and	Complied
3.	Analysis and review of estimate if L1 price is higher than estimates	L1 Price is 57.93% lower than the estimate.
4.	Deliberation on insufficient competition (wherever applicable)	There are 7 Techno Commercial qualified bidders for this Tender. Hence there is sufficient competition.
5.	Any suspicion regarding cartelization	No
6.	Recommendation on re-tendering (if applicable)	Re-Tendering not applicable.
7.	Impact on project cost (Not applicable for O&M)	L1 Bidder price is less than the Cost Estimate. Hence no impact on Project Cost.
8.	Impact of delivery period on Project Schedule	Nil
9.	Details of total financial implication committed on the project (for projects)	Nil
10.	Analysis of L1 price if it is higher than estimates	L1 Price is lower than the Cost Estimate
11.	Ordering Cycle time	62 days
12.	Past purchase price comparison for purchases	Past Purchase price also Considered.
13.	Clear recommendation for approval is to be submitted, no conditional recommendation.	Clear recommendation submitted
14.	Details of prices submitted after Reverse Auction and variations thereof (wherever applicable)	Not applicable

15.	Verifying that name of recommended bidder (s) are not appearing in Holiday/ Banning list, available on Intranet Further the vendor code through which offer is submitted is same as the vendor code on which order/ contract is to be placed (mentioned in bid) Bill to and ship to details as per guidelines in this regard.	Recommended bidder is not appearing in Holiday/ Banning list Not applicable Not applicable
16.	Total committed cost in project with the award of subject package (Not applicable for O&M). Head WISE (Approved/ Committed/Actual/ Anticipated) as per enclosed Appendix-I.	GAIL to mention
17.	Dealing of purchase preference to MSEs (wherever applicable).	PPP for MSE is not applicable in this Tender.
18.	Dealing of purchase preference PP-LC (wherever applicable)	All bidders has declared their LC content more than 50% of required limit.
19.	Dealing of purchase preference to DMEPs (wherever applicable)	Not applicable
20.	Whether any order is placed on Startup. If yes, the safeguard mentioned in C&P Procedure is to be deliberated.	Not applicable
.	Dealing of insufficient competition in terms of clause no. 4.16 of C&P Procedure (wherever applicable).	Not applicable since there are 7 Techno Commercially qualified bidders for this Tender.
22.	Cost details showing all DFR heads in DFR vs committed vs actual (for Project cases)	GAIL to mention



23.	For the cases of Repeat Order	Not applicable
	(i) Confirmation that repeat order does not exceed 50% of Original Qty (or as mentioned in original PO) and is placed within 06 months from Notification of Award.	
	(ii) Confirmation that repeat order is not being placed on an emergency purchase, negotiated purchase, sole acceptable offer basis and where the prices against original order were escalated to compensate for early delivery(ies)	
	(iii) Confirmation from Indenter/ User/Project Department as per 3.5 (i) of Section-11 of C&P Procedure	
	(iv) Confirmation that repeat Order is not for any new location or Project other than that specified in tender document.	
24.	Relevant clauses of DoP and C&P Procedures (as applicable)	Complied
25.	Preparation of Draft ECPC Agenda as per format and keeping the same in file (for ECPC cases)	
		GAIL to mention
26.	Whether all the fact of case has been considered while preparing the Recommendations	Yes
27.	Time taken from Price bid opening to Award recommendation	4 days



M. Girish Kumar (GM - C&P)
Lyons Engineering Pvt Ltd.

From: Brajendra Kumar Tripathi (ब्रजेन्द्र कुमार त्रिपाठी) <bktripathi@gail.co.in>
Sent: 01 July 2022 14:20
To: girish.kumar@lyonsengineers.com
Cc: Girjesh Kumar (गिरजेश कुमार); N C Roy (एन सी रॉय); SANDIP SUNDAR SAHOO (संदिप सुंदर साहु)
Subject: CONSTRUCTION OF STEEL PIPELINE AND ASSOCIATED FACILITIES FOR LAST MILE CONNECTIVITY TO M/S VARDHMAN SPECIAL STEEL LIMITED – LUDHIANA, PUNJAB (TENDER-ID: 2022_GAIL_112213_1)

Dear Sir,

Competent Authority has accorded the approval for Price bid opening of the subject tender as recommended by PMC. The details of techno-commercially acceptable bidders are as under:

Aneri Constructions Pvt. Ltd
Enprocon Enterprise Ltd., Ahmedabad
Harsha Infrapower Pvt. Ltd
Rambaran Singh Apex Pvt. Ltd
RS Infrasolutions Pvt. Ltd
Shakti Engineers
Tolani Projects Pvt. Ltd

You are requested to proceed for Price bid opening at the earliest.

Regards
B K Tripathi

Har Ek Kaam Desh Ke Naam

Disclaimer: This communication is confidential and privileged and is directed to and for the use of the addressee only. The recipient, if not the addressee, should not use this message if erroneously received as access and use of this e-mail in any manner by anyone other than the addressee is unauthorized. The recipient acknowledges that GAIL (India) Limited may be unable to exercise control or ensure or guarantee the integrity of the text of this email message and the text is not warranted as to completeness and accuracy. Though GAIL (India) Limited has taken reasonable precautions to ensure no viruses are present in this e-mail, however, it cannot accept responsibility for any loss or damage arising from the use of this email or attachments.

MINUTES OF MEETING:

Sub : PRICE BID OPENING FOR LAYING TENDER REF : 2022 GAIL 112213 1 – VARDHMAN CONNECTIVITY

Client : GAIL officials present :

Shri. N C RAY
Shri. B K Tripathi
Shri. Sandip Sahoo (C&P)
Shri. Vinod Khudia (Finance)

PMC : Lyons Engineering : Mr. M Girish Kumar

Bidder:

HARSHA INFRA POWER PRIVATE LIMITED
RAMBARAN SINGH APEX PRIVATE LIMITED
R S INFRA SOLUTIONS PRIVATE LIMITED
Enprocon Enterprise Limited
ANERI CONSTRUCTION PRIVATE LIMITED
SHAKTI ENGINEERS

M/s. Lyons Engineering welcomed the participants.

Price Bid was opened on Scheduled date and time at 17.00 Hrs. Price details quoted by Bidder was read out which is as under;

Bidder Name	Amount
HARSHA INFRA POWER PRIVATE LIMITED	70418107.96
RAMBARAN SINGH APEX PRIVATE LIMITED	104956020.40
R S INFRASOLUTIONS PRIVATE LIMITED	105250806.82
TOLANI PROJECTS PVT LTD	119260129.08
Enprocon Enterprise Limited	119674136.80
ANERI CONSTRUCTION PRIVATE LIMITED	128513020.02
SHAKTI ENGINEERS	146858150.80

Meeting was concluded at 17.30 PM



On behalf of
Lyons Engineering Pvt. Ltd.
Signed by
M. Girish Kumar
General Manager (C&P)

GAIL (India) Ltd.