



**INDRADHANUSH GAS GRID LIMITED**

(Joint Venture of IOCL, ONGC, GAIL, OIL and NRL)

**GUWAHATI, ASSAM**

## **CORRIGENDUM 1**

**FOR**

**LAYING & CONSTRUCTION OF STEEL GAS PIPELINE  
AND TERMINALS ALONG WITH ASSOCIATED  
FACILITIES FOR SECTION- 12 (AGARTALA- TULAMURA  
FEEDER LINE) OF NORTH EAST GAS GRID (NEGG)  
PROJECT OF M/S INDRADHANUSH GAS GRID LIMITED  
(IGGL**

**OPEN DOMESTIC COMPETITIVE BIDDING**

**Tender no.: 05/51/23UU/IGGL/001-i-4**

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**PREPARED AND ISSUED BY**

**MECON LIMITED**

(A Govt. of India Undertaking)

Delhi, India



IGGL

**CORRIGENDUM # 1**  
**LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 (AGARTALA- TULAMURA FEEDER LINE) OF NORTH EAST GAS GRID (NEGG) PROJECT OF M/S INDRADHANUSH GAS GRID LIMITED (IGGL)**  
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**MECON LIMITED**



**Dated 23.05.2022**



Sl. No.	Description	Volume	Page No.	Clause / Para / Section	Amendment / Addition / Modification / Deletion	
1	Schedule of Rates			Section-VII	Modification	The Revised SOR is enclosed as <b>Annexure-I to this Corrigendum.</b> The SOR has been revised to unlock some of cell of TCP ,CMS , Civil , Architecture , Instrumentation , Fire fighting & Water supply part



**All other terms & conditions of tender document remain unaltered.**



ANNEXURE-I to CORRIGENDUM # 1



		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA-TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-4</b></p>						
1.0		Unit	Quantity Section-12	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
Sl. No.	Description of Item			In Figure	In Words	In Figure		
1.0	<b>MAINLINE WORKS</b>							
1.0	<b>PIPELINE LAYING / INSTALLATION</b>							
	Laying/ installation of cross - country natural gas carbon steel coated line pipe, associated fittings and accessories, etc. as per specifications, drawings, other provisions of Contract and instructions of Engineer-in-Charge of the sizes mentioned herein, including but not limited to carrying out the following :							
	*Receiving and taking-over*, handling, loading (except bare/coated line pipe from Owner's designated dumpyard for this project), transportation and unloading of Owner supplied externally corrosion coated and bare line pipes and other Owner supplied materials from Owner designated place(s) of issue/ dump site(s) to Contractor's own stock-yard(s)/ workshop(s)/ work-site(s) including stringing on the pipeline Right-of-Use (ROU)/ Right of way (ROW); Arrangement of all additional land required for Contractor's storage, fabrication, access for construction (other than Owner provided ROU/ROW); supply of all materials (except Owner supplied materials), consumables, equipment, labour, etc. and other incidental works; carrying out all temporary, ancillary, auxiliary works required to make the pipeline ready for pre-commissioning as per drawings, specifications, scope of work indicated in SCC and other provisions of Contract document and instructions of Engineer-in-charge, including but not limited to carrying out the following works :							
	Staking and installation of temporary construction markers, clearing, grubbing, grading (as required) of Right of Use/ Right of Way;							
	Counting the number and type of trees cut in presence of DFO/concerned authorities and keeping record thereof; shifting of all obstruction within the ROU / pipeline route alignment viz. electrical line / pole, telephone line (poles), foreign pipeline; coordination with concerned authorities.							
	Trenching to all depths and to a width to accommodate the pipeline and/or optical fiber cable/cable duct/ conduit during lowering & backfilling as specified in scope of work and as per the relevant standards, specifications, etc by excavation in all types of soils (including soft/hard rock), including controlled blasting, chiseling or otherwise cutting etc.; providing depth of padding in trench bed & above and around the pipeline, HDPE duct and OFC as required with sand / graded earth approved by Engineer-in Charge;							
	<i>Trenching in rocky terrain by use of rock hammer/ Rock breaking tool or any other suitable and approved method, including controlled blasting (if required) with due approval of EIC.</i>							
	Survey of the detours, if required at the time of construction including marking the same in topographical sheet, preparation of AFC drawings showing survey detail and submitting same to Owner to review.							
	Carrying out repairs of pipe defects/ replacement in case of irreparable defects and repairs of defects of pipe coating not attributable to Owner including defects/ damages occurring during transportation/ handling after taking over from Owner by Contractor including management of their own dump site, if required. Thorough internal cleaning of all pipes by suitable methods to remove debris, shots, grits etc. to the satisfaction of Engineer-in- Charge;							
	Stringing of line pipes along ROU/ROW including providing straw and sand.							
	Aligning, bending, cutting and beveling (as required) of pipes for welding and field adjustments, NDT of rebvelled area, welding, carrying out non-destructive testing (100%) by X-Ray of welds as required and providing all requisite equipment, labor, supervision, materials, films, consumables, all facilities and personnel to process, develop, examine and interpret radiographs and other tests as required; carrying out repairs of weld joints found defective by Engineer-In- Charge, carrying out re-radiography and other nondestructive tests such as ultrasonic test etc. as required on repaired joints, etc. as mentioned in SCC & Particular Jobs Specification.							
	Installation of carrier pipe including concrete coated pipes (wherever required) at all crossings including roads/ cartrack / pathway / drain / canals/ nala/ marshy lands/ ponds/ other water crossings etc. (except at crossings by HDD method, Cased crossings, Crossings by machine moling and by open cut conventional method that are specifically covered separately elsewhere in the (SOR) by open cut after prehydrotest of the section, if required, including re-storation of the banks to original conditions (in case of waterbody crossings) duly accepted by Competent Authority as defined as per specification.							
	Supply of coating materials for all field joints. Long Radius Bends, Buried Fittings, Valves, etc. including heat shrinkable sleeves and high build liquid epoxy etc. as per specifications compatible with 3-Layer PE Coating as per tender specifications with prior approval of Engineer-in-charge.							
	Coating of all field weld joints, long radius bends, buried fittings, valves etc.;							
	Training and diversions of streams in steep slope areas, wherever required.							
	Crossing all the foreign pipeline / HT line / Power lines/ cable / any other utilities etc. with necessary concrete / PVC protection including coordination with all agencies.							
	For seismic area - the trenching and backfilling shall be carried out as per specification and drawing no. MEC/TYP/05/21/01A/004 - Trench dimensions and cohesion less select backfill for pipeline in seismic zone (excluding backfilling with selected soil for seismic area covered separately).							
	Lowering the pipelines in trench as per specification and standard drawing including providing sand bag separators for parallel pipelines at the specified spacing (when applicable), providing required padding with sand/graded material approved by Engineer-In-Charge, over and around the pipeline, OFC & HDPE Duct, in rocky areas, including supply of sand/graded material. In addition to padding, rock shield to be supplied and installed over the pipeline in rocky areas, backfilling with available, approved excavated material and/or other suitable soil approved by Engineer-In-Charge.							
	Taking DGPS coordinates of each weld joint (including tie in joints) and including the same in field inspection report. The coordinate must have X,Y,Z (ground level) along with depth of cover.							
	Supply and installation of slope breaker as per specification and drawing in slightly undulating areas (having slope 6° to < 20°); slope stabilisation as per specification and drawing in highly undulating areas (having slope ≥ 20°)							
	Installation of LR Bend, as per specification wherever required depending on site condition.							



		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA-TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-I-4</b></p>										
1.0 <b>MAINLINE WORKS</b>		Unit	Quantity Section-12	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)				
Sl. No.	Description of Item			In Figure	In Words	In Figure						
	Supply and installation of warning mesh as per EN:12613 standard (latest edition) & as per relevant clause mentioned in PJS enclosed in the bid document.											
	Carrying out cleaning, pigging and hydrostatic testing including air cleaning, flushing, filling, gauging, pressurization of complete pipeline in various test sections as approved by Engineer-In-Charge to the specified test pressure, providing all equipment, pumps, fittings, instruments, dead weight tester, test headers, pressure recorder, all types of pigs etc., and services, supervision, labour, consumables, water including supply of corrosion inhibitor, air, etc. as required, locating of leaks, if any, occurred during hydrotesting attributable to contractor either by further sectionalising or any other suitable standard recommended practice with due approval of Engineer-in-Charge and rectification of defects, retesting after rectification, successful completion of hydrotesting of pipeline to acceptance criteria defined in the specifications.											
	(Note : Leak detection, its rectification and successfully re-hydrotesting shall be carried out by Contractor with a view that completion of all activity for successful hydrotesting is not inordinately extended, which will hamper the overall project schedule. Further, no extra payment claim shall be entertained for re-hydrotesting and leak detection if defects found attributable to Contractor.											
	All tie-ins, including the tie-in(s) of the pipeline / piping installed with the adjacent section of pipeline by others including cutting of test header, re-beveling as required, radiography and other NDT examination, joint coating as per specification.											
	Carrying out all temporary, ancillary, auxiliary works and all incidental works required to make the pipeline ready for pre-commissioning.											
	Repair of defects recorded during EGP/gauge plate run or otherwise including cutting, beveling, welding, radiography, field joint coating etc; as applicable. Final clean-up and restoration of right of way/ right of use including disposal of debris and returning all surplus material to defined disposal areas and storage yards as mentioned in Annexure-2 to SCC, as directed by Engineer-In-Charge.											
	Restoration of land, facilities, boundary wall and roads etc. and associated facilities dismantled/damaged by the Contractor during construction; Complying with all stipulation/conditions/recommendation of the authorities before and after execution of the work; Preparation of as-built drawings, pipe-book and other records as specified in the specifications. SOR shall be read in conjunction with scope of work, job specific requirements, specifications, standards, drawings and other provision of contract document. All above works, line pipe laying and installation all above works for buried pipeline as per following details:											
	Installation of Coated Line Pipes as per following details: + Line pipe details (Pipeline Section-12)											
	Size      Thk.      Grade      Coating Type      Length of each Pipe      Type of Soil      Terrain/ Area											
1.1	323.9      7.14      API 5L Gr. X-70 PSL-2      3 Layer PE Coating			Double random (approx. 11.5 to 12.5 mtr.) & Bevel End	All type of strata	Flat / Slightly Undulating	M	60025				
1.2	323.9      7.14      API 5L Gr. X-70 PSL-2      3 Layer PE Coating			Double random (approx. 11.5 to 12.5 mtr.) & Bevel End	All type of strata	Highly undulating	M	16500				
1.3	323.9      9.53      API 5L Gr. X-70 PSL-2      3 Layer PE Coating			Double random (approx. 11.5 to 12.5 mtr.) & Bevel End	All type of strata	Flat / Slightly Undulating	M	100				



 IGGL		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA-TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-4					 MECON LTD	
1.0	MAINLINE WORKS	Unit	Quantity Section-12	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
Sl. No.	Description of Item			In Figure	In Words	In Figure		
	Notes : 1. This item rate is applicable for complete work of laying of underground pipeline of Section-12 (12" x 85.836 Km)- From Tulamura terminal to receiving terminal at Agartala as per Schematic Route Diagram. (Refer Drg. No.: MEC/23UU/05/28/M/000/0021, Sh. 12 of 14, enclosed as APPENDIX-IV to PJS) including installation of aboveground insulating joints, flow tee and station approach pipeline but excluding aboveground & underground installation of SV Station (tie in to tie in with mainline) which are covered separately. The length of pipeline are tentative. 2. Rate for laying of OFC & duct shall be quoted in relevant Schedule of Rates (SOR) of Telecom works, hence not to be included in Pipeline Laying works. 3. For type of soil (soft / normal soil & rocky area details) and details of pipeline route, refer enclosed Alignment Sheets, Soil Investigation Report and Detailed engineering survey report enclosed in tender document. It is advised that Bidder should study the pipeline route (ROU restrictions, terrain, soil strata etc.) carefully before quoting. 4. The above rate shall be inclusive of hydrotesting of complete pipeline under Section-12 including hydrotesting of all crossing sections (including those of HDDs performed by separate agency, if any) along with the mainline. 5. Payment for Preparation of as-built drawings, pipe-book and other records as specified in the specifications is to be covered in this SOR rate. 6. List of crossings indicating tentative Crossing methodology is enclosed as APPENDIX-VIII to PJS in tender document. Bidders are advised to visit the site for actual assessment of various crossings. Payment shall be made as per approved Crossing methodology as per relevant SOR item. 7. In case of change of crossing methodology (as indicated in APPENDIX-VIII to PJS) by EIC, the rates shall be payable as per relevant SOR item. In case, Contractor changes crossing methodology from open cut to trenchless/any other method on his own, then, no additional payment shall be admissible on this account. 8. Contractor shall return all surplus material to defined storage yard as mentioned in Annexure-2 to SCC and as directed by Engineer-in-Charge. 9. Payment for supply & application of continuous concrete weight coating will be made as per other relevant SOR item. 10. The above item rate excludes crossings by HDD, Cased crossings, crossings by Open cut conventional method and Crossings by Moring technique/ Thrust boring technique (which are covered separately in relevant SOR items). For other crossings, it is deemed to be inclusive in above item rate. 11. Quantity indicated above is tentative. 12. In case of crossing of NH, SH/MDR by open cut method, the rates for the same shall be payable as per above SOR item. However, restoration of NH/SH/MDR shall be payable as per separate item covered elsewhere. Restoration of all other roads is inclusive in above item. 13. The terrain having slopes < 20° shall be considered flat/ slightly undulating terrain. The terrain having slopes ≥ 20° shall be considered highly undulating terrain. 14. Pipeline route for most of the part runs mainly through mixed jungle, rubber plantation and reserve forest, contractor to go through the Survey Report and quote accordingly.							
2.0	<b>CONTINUOUS CONCRETE COATING</b> Additional work over and above SOR Sl. No. 1 for supply of all consumables and materials and application of continuous concrete weight coating of minimum density 2245 Kg/m <sup>3</sup> of minimum grade M-35 (design mix), on pipes of all wall thicknesses and concrete coating of the field joints thereof, in all areas of work (wherever required) except rivers /waterbody crossings covered separately under SOR item no. 6, and performing all works as per specifications and instructions of Engineer-in-Charge and other provisions of Contract document. Pipes as per following details : (Pipeline Section-12) Pipe OD-323.9 mm, WT- 7.14 mm for X-70, Coating Thickness - 60 mm	M	1500					
3.0	<b>BACKFILLING WITH SELECT SOIL</b> <b>BACKFILLING WITH SELECT SOIL (For Station Approach)</b> (Unit rate over and above SOR Sl. No. 1 for supply of specified and approved quality of sand / rock / other types of soil including supply of sand in place of available excavated material and/ or other suitable soil as per applicable standards/ specifications, including backfilling of excavated trench for specified length after laying of pipeline, including transportation of backfill material over all distances and disposal of surplus excavated soil, complete.	M3	500					
3.2	<b>BACKFILLING WITH SELECT SOIL (For Seismic Areas)</b> Providing specified and approved quality of backfill material as defined in contract document at seismic zone along pipeline route (wherever applicable) as per standards/ specifications over and above item 1, including supply of select backfill in place of available excavated material and/or other suitable soil including backfilling of excavated trench after laying of pipeline and optical fiber cables/ cable conduit (wherever applicable) including transportation of such special backfill material over all distances and disposal of surplus excavated soil (Refer Drg. No. MEC/TYP/05/21/01A/004).	M3	300					
4.0	<b>PIPING WORKS FOR SECTIONALISING VALVE STATION</b>							
4.1	All works for installation of all piping, valves, insulating joints, flow tee and QOEC above ground at all elevations and below ground at all depth for Sectionalising Valve Station in all type of terrains and soils including transportation and handling of all Owner supplied materials i.e. extended stem full bore 12" (323.9 mm OD) butt welded, AV Sectionalising Ball valve, Insulating Joint of all size, all types of valves (4" and above), Flow tees of all size, QOEC, line pipes for mainline from Owner's designated place(s) of issue to work site. Supply of gaskets, studs, nuts, copper jumpers, nipples & coupling etc. Installation / Erection of instrumentation items i.e. pressure gauge, SS tubing and temperature gauge including tubing works, consumables, manpower, machineries, tools & tackles for carrying out all mechanical works of underground and above ground piping including fabrication, welding, nondestructive testing of welds, weld repairs/ re-testing. Cleaning/ flushing, pre-hydrotesting & hydrostatic testing, dewatering, functional testing, cutting of mainline and bevelling (if required), tie-in of valve assembly, including radiography of tie in joints, corrosion coating (by heat shrink sleeves) for buried piping and external painting for buried fittings by high build epoxy of min. 600 micron of R-95 or equivalent as required, obtaining all statutory clearances, approvals and permissions for the works (wherever required), making of valve pit [for detail refer relevant drawings (i.e. P&ID, Plot Plan) for SV Station enclosed with tender] filled with sand, excavation and filling in all types of soils including soft/ hard rock for installation of piping/ pipe supports including all associated civil works (pertaining to supports only); painting, finishing, clean-up and restoration of site; preparation of as-built drawings, documents and project records and performing all works as per drawings, specifications, other provisions of Contract document and instructions of Engineer-in-charge.							
4.1.1	Sectionalising Valve Station-01 (T)	Lumpsum	1					
4.1.2	Sectionalising Valve Station-02 (T)	Lumpsum	1					



		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA -TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-14</b></p>						
<p><b>IGGL</b></p>		<p style="text-align: right;">Prices in INR</p>						
		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)	
Sl. No.	Description of Item		Section-12	In Figure	In Words	In Figure		
1.0	<b>MAINLINE WORKS</b>							
4.1.3	Sectionalising Valve Station-03 (T)	Lumpsum	1					
4.1.4	Sectionalising Valve Station-04 (T)	Lumpsum	1					
	Notes 1. This work is exclusive of all works associated with main pipeline covered at SOR Sl No. 1.0 above. 2. All Civil/ structural works except for piping supports will be paid separately as per rates provided elsewhere. 3. Work is inclusive of receiving, taking over, loading & unloading of company supplied material and return of surplus material to Company's defined stockyard/store as mentioned in Annexure-2 to SCC as directed by Engineer-in-charge. 4. All other works pertaining to SV Station (Instrumentation works) shall be paid as per rates provided elsewhere in the tender document. 5. Length shall be considered from tie-in to tie-in with mainline. 6. Supply of assorted pipes of all size, all types of valves (below 4") and flanges & fittings (below 18") shall be paid as per rates provided elsewhere in the SOR. (Refer plot plan drawing and P&ID for SV Station enclosed with tender document for ascertaining quantum of mechanical work associated with SV Station).							
5.0	<b>RIVER CROSSING (by HDD Method)</b> Complete work of the river crossings (between the limits as defined in drawing - detailed construction drawings shall be prepared by the contractor duly approved by OWNER/PMC) by Horizontal Directional Drilling (HDD) method including "Receiving and taking over" of owner supplied three layer PE coated line pipes from owner's designated places of issue/ dump sites) and transportation to Contractor's stock yard/ work shop/ worksite including all handling, loading, unloading, aligning etc. supply of all consumables, deployment of manpower, equipments, other resources to work site(s) and acquiring the required land for storage, fabrication, site office access for Contractor etc. and execution of but not limited to the following works in accordance with specifications, scope of work and instructions of Engineer-in-charge and as per provision of Contract Document. Geotechnical and Hydrological survey data for Bore Holes will be furnished by Owner/ PMC, to the extent available. However PMC/ Owner shall not be held responsible for the change of strata if found to be variable. Contractor may ascertain the bore hole data by taking random samples, obtain historical data/ scour depth (in case of river) from concerned authority ascertaining under neath soil & strata, necessary cover required over the carrier pipeline from lowest bed level of the stipulated water crossing if they feel the necessity.  Design & calculation, detail engineering and making of crossing drawing for getting approval from concerned Authority/ Engineer-in-charge, getting work permit/ NOC for water crossings as well as utility crossings (if any) encountered during water crossing prior to start of execution of work.							
	Drilling to the required depth on the banks and bed including maintenance of drill hole in all types of strata including hard rock, all depth to accommodate the pipeline and CS conduit for OFC laying at all conditions of the river crossings by HDD methods for providing with minimum cover either (i) Minimum 1.5m below the scour level / profile or as duly approved/ accepted by concerned authority (under whose jurisdictions the crossing lies) whichever is more---- For rivers with rocky bed or (ii) Minimum 2.5m below the scour level / profile or as duly approved/ accepted by concerned authority (under whose jurisdictions the crossing lies) whichever is more---- For major rivers. and (iii) In addition to point (i) & (ii), In case of multiple combined X-ing i.e. river alongwith road/ drain, minimum cover requirement as per specification/ concerned authority for each type of x-ing has also to be fulfilled.							
	Laying of pipeline by the approved HDD method across the river crossing including strings preparation of pipes, welding, testing, 100% NDT by radiography by X-ray, welding repair and retest, coating of field joints with special type Dirax Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with special PERP-60E repair patch or equivalent material (including supply of repair patch) as per specification, pre-hydrotest of complete strings made for crossing etc. as per specification.							
	String preparation and laying of 6 inch CS conduit for OFC by HDD method, welding etc.							
	Backfilling of the ditch/ trench including restoration and clean-up of area, disposal of drilling fluid & waste etc. to the satisfaction of Engineer-in-charge and/ or as directed by Concerned Authority.							
	Gauging, Piggng, Cleaning, Post installation hydrotest, dewatering, swabbing and tie-in with pipeline at either banks etc.as per specifications, codes, approved drawings, calculations, methods and as directed by Engineer-in-charge and provision of contract document; getting NOC from all concerned authority of the facilities crossed.							
	<b>Pipeline Section- 12</b>							
5.1	Crossing of Dakdu River at chainage 0.241 Km for carrier pipeline of size 323.9 mm ODx 7.14 mm of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick. of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	400					
5.2	Crossing of Champa River at chainage 4.492 Km for carrier pipeline of size 323.9 mm ODx 7.14 mm of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick. of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	400					
5.3	Crossing of Buri Gang River at chainage 19.887 Km for carrier pipeline of size 323.9 mm ODx 7.14 mm of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick. of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	325					
5.4	Crossing of Gumti River at chainage 44.684 Km for carrier pipeline of size 323.9 mm ODx 7.14 mm of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick. of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	735					
5.5	Crossing of Gumti River at chainage 60.703 Km for carrier pipeline of size 323.9 mm ODx 7.14 mm of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick. of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	350					
5.6	Crossing of Gumti River at chainage 61.802 Km for carrier pipeline of size 323.9 mm ODx 7.14 mm of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick. of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	350					



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Sl. No.	Description of Item		Quantity Section-12	In Figure	In Words	In Figure		
	<p>Notes: (i) Crossings indicated in crossing detail drawing enclosed with the tender are tentative. Crossing width may vary as per site condition. Bidders are advised to visit the site for actual assessment of extent of crossing and to assess the extent of cover which may have to be provided. Actual string length for HDD shall be as per design calculations so that pipe is not under stress as permitted by codes/specifications. Final length of string shall be decided after decision of minimum cover requirement by concerned Authority/ Engineer-in-charge.</p> <p>The above HDD lengths are tentative only and final length shall be decided as per actual ground profile taken during execution. Realignment may be required for some of the crossings. In case, any of the river crossings is not possible by HDD due difficult terrain/soil strata, then, the same shall be executed by open cut conventional method and payment shall be regulated as per separate accordingly.</p> <p>(ii) The Contractor has to quote for all crossings alongwith 6" CS conduit. It is sole discretion of the Contractor to do HDD crossing of mainline pipe as well as CS conduit pipe either by suitably strapping together both the carrier pipe &amp; CS conduit and pulled through the same drill hole or making separate HDD for 6" CS conduit for OFC laying at minimum 4m distance apart from centreline of HDD of mainline either side. No separate payment for HDD for 6" CS conduit shall be paid.</p> <p>(iii) Payment shall be made only for the length of final tied-in carrier pipeline string with mainline and CS conduit laid by HDD method under the above item rate and no separate payment shall be made under any other clause mentioned elsewhere.</p> <p>(iv) Geo-technical investigation and hydrological survey data / report of all the above crossings shall be provided to the successful bidder during execution of the contract. Contractor shall submit design calculation and all construction (profile) drawings in line with provided survey data for Owner / PMC approval. Work shall start only after approval of the above.</p> <p>(v) Contractor shall verify the authenticity of the data provided during execution and if required, additional geo-technical investigation &amp; hydrological survey shall be carried out by the contractors for HDD crossings without any cost and time implication.</p> <p>(vi) Contractor shall not be entitled for any extra payment due to location / area constraint, capacity of rig, etc.</p> <p>(vii) In case of change of crossing methodology for any above listed crossing as decided by EIC, the payment for that crossing shall be made as per relevant SOR item.</p> <p>(viii) Post Hydrotesting shall be carried out as per approved procedure.</p> <p>(ix) Payment for supply of CS conduit shall be made as per rates available elsewhere in the SOR.</p>							
6.0	<b>RIVER/ WATERBODY CROSSINGS BY OPEN CUT CONVENTIONAL METHOD</b>							
	Complete work of the crossings (between the limits as defined in approved drawing) including "Receiving and taking over" of owner supplied corrosion coated line pipes from owner's designated places of issue/ dump site(s) and transportation to Contractor's stock yard/ work shop/ worksite including all handling, loading, unloading, etc. supply of all Contractor supplied material to worksite(s) including consumables, deployment of manpower, equipments, other resources and acquiring the required land for storage, fabrication, access for Contractor etc. and execution of, but not limited to, following works in accordance with specifications and instructions of Engineer-in-charge and as per all provision of Contract Document.							
	For waterbody crossings: Pre-construction survey, obtaining scour depth (for river) from concerned authority (if required), necessary cover required over the carrier pipeline from lowest bed level of the stipulated water crossing to be obtained from concerned authority, bed strata data including design & detail engineering and making of crossing drawing for getting their approval from concerned Authority/ Engineer-in-charge, getting work permit/ NOC for water crossings as well as utility crossings, (if any), encountered during water crossing prior to start of execution of work.							
	Following data shall be obtained from concern authority/ local sources (for river) to finalise scour depth :- (i) Past Historical flood level data indicating HFL to determine highest flood level. (ii) River flow data including velocity of water flow. (iii) Necessary information regarding type of soil and strata underneath the river bed.							
	All works related to construction of cofferdam, dewatering and stream diversion etc. (as required). Trenching to the required depth on the banks and bed including maintenance of trench in all types of strata, all depth to a width to accommodate the pipeline and CS conduit at all conditions of the water crossings for providing with minimum cover over top of the pipe at all point across the maximum possible width of water bed (as per drawing) either 1.5 mtrs. below the predicted scour profile expected during the life time of the pipeline or 2.5 mtrs. below the available lowest firm bed (if scour profile/ depth not available) of the water crossing by ascertaining bed level upto 50 mtrs. both the side from crossing location or the actual depth as per code/ specification or as decided by concerned Authority/ Engineer-in-charge whichever is more.							
	Strings preparation of pipes, welding, testing, 100 % radiography by X-ray, welding repair and retest, coating of field joints with Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with repair patch or equivalent material (including supply of repair patch) as per specification, pre-hydrotest of complete strings made for crossing etc.							
	Final strings preparation of pipes as per approved drawing & specification or as decided by Engineer-in-charge depending on site condition, repair of coating damages, coating of field joints, etc. as per respective technical specification.							
	Supply and application of Continuous concrete weight coating of minimum density 2245 kg/m3 of minimum grade M-35 (design mix) on pipes and field joints thereof in all areas of work wherever required as per site condition and performing all works as per specification. Coating thickness - 60mm							
	Laying of the pipeline by the approved crossing method across the water crossing in the approved trench.							
	Supply and installation of warning mesh as per EN:12613 standard (latest edition) & as per relevant clause mentioned in PJS enclosed in the bid document.							
	Backfilling of the trench including supply and padding by select backfill as required: re-storation of banks to original condition duly accepted by Competent Authority and getting NOC from concerned authority, restoration of disturbed area and clean-up etc.							
	Pigging, cleaning, Post installation hydrotest, dewatering, swabbing and tie-in with pipeline at either banks etc.as per specification, codes, approved drawings, calculations, methods and as directed by Engineer-in-charge.							
6.1	River/ Water Crossings wherever required at minimum cover mentioned as above.							
6.1.1	Crossing of river/ waterbody for carrier pipeline of size 323.9 mm OD x 7.14 mm thk of API 5L Grade X-70 along with CS conduit of size 150 mm X 6.4 mm thick. of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC	M	700					
	Note: (i) The width indicated is not for any single crossing. This shall be as per requirement at site for crossing at different locations. (ii) Final length of string & cover from top of pipe for each crossing shall be decided and approved by concerned Authority/ Engineer-in-charge. (iii) Payment for the length of final tied-in carrier pipeline string with mainline and CS conduit made for crossing laid by open cut conventional method are inclusive in the above item rate and no separate payment shall be made under other clause mentioned elsewhere.							



		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA -TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-4</b></p>						
<b>IGGL</b>							<b>MECON LTD</b>	
				<b>Prices in INR</b>				
				<b>Total Amount Inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>		<b>Service Accounting Codes (SAC)</b>		
				<b>In Figure</b>		<b>In Words</b>		
				<b>In Figure</b>				
<b>1.0</b>	<b>MAINLINE WORKS</b>	<b>Unit</b>	<b>Quantity Section-12</b>	<b>Unit Rate inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>				
<b>SL No.</b>	<b>Description of Item</b>			<b>In Figure</b>	<b>In Words</b>	<b>In Figure</b>		
	(iv) Payment for concrete coated portion (limited to bank to bank) shall be made by SOR item no. 6.1 and payment for rest of the portion shall be made by other relevant SOR item. (v) If need for bank and bed stabilization arises as per instructions of Engineer-in -charge, the scheme for Bed & Bank Stabilisation as per standards MEC/05/11/STD/015 & MEC/05/11/STD/016, shall be executed and the same shall be paid separately as per rates provided elsewhere in the SOR. (vi) This item rate is applicable for Minor / Major river crossings. The above item rate is also applicable in case of change in crossing methodology of any particular crossing (as indicated in APPENDIX-VIII to PJS) duly approved by EIC.							
<b>7.0</b>	<b>CROSSING (by HDD Method)</b>							
	Complete work of any crossing (between the limits as defined in approved drawing - detailed construction drawings shall be prepared by the contractor duly approved by OWNER/PMC) by HDD method including "Receiving and taking over" owner supplied three layer PE coated line pipes from Owner's designated place to issue/ dump site(s) and transportation to Contractor's stock yard/ work shop/ work site including all handling, loading, unloading, aligning etc. supply of all Contractor supplied material including consumables, deployment of manpower, equipment, other resources to work site(s) and acquiring the required land for storage., Execution of, but not limited to, following works in accordance with specifications and instruction of Engineer-in-charge and as per all provision of Contract Document.							
	For waterbody, In-situ pre-construction survey including auger bore(s) of minimum 6.0 M depth (in the middle third of waterway; at least 1 in each waterbody and at interval of 50M centres) to establish bed strata.its bore log by soil testing; obtaining historical data/ scour depth (in case of river) from concerned authority ascertaining under neath soil & strata, necessary cover required over the carrier pipeline from lowest bed level of the stipulated water crossing including design & calculation and detail engineering and making of crossing drawing for getting the approval from concerned Authority/ Engineer-in-charge, getting work permit/ NOC for water crossings as well as utility crossings (if any) encountered during water crossing prior to start of execution of work.  For road and railway crossings, pre-construction survey based on site visit, collection of data (if required) from concerned Authority including design and detail engineering and making of crossing drawings for getting their approval from concerned Authority / Engineer-in-charge, getting work permit/ NOC for the crossing as well as utility crossings (if any) encountered during crossing prior to start of execution of work.							
	In case of water body crossings  Drilling to the required depth on the banks and bed including maintenance of drill hole in all types of strata including hard rock, all depth to accommodate the pipeline and CS conduit for OFC laying at all conditions of the waterbody crossings by HDD methods for providing minimum cover either (i) Minimum 1.5m below the scour level / profile or as duly approved/ accepted by concerned authority ( under whose jurisdictions the crossing lies) whichever is more---- For rivers with rocky bed or (ii) Minimum 2.5m below the scour level / profile or as duly approved/ accepted by concerned authority ( under whose jurisdictions the crossing lies) whichever is more---- For major rivers. or (iii) Minimum 1.5 m below the bed level / profile or as duly approved/ accepted by concerned authority ( under whose jurisdictions the crossing lies) whichever is more---- For minor waterbody crossings. and (iv) In addition to point (i) & (ii), In case of multiple combined X-ing i.e. river alongwith road/ drain, minimum cover requirement as per specification/ concerned authority for each type of x-ing has also to be fulfilled.							
	In case of road crossing, drilling to required depth from top of road including maintenance of drill hole in all types of strata including hard rock, all depth to accommodate the pipeline and CS conduit for OFC laying at all conditions encountered during road crossing by approved HDD methods for providing minimum cover specified in code/ specification or the actual depth as decided by concerned authority, whichever is more.  In case of railway crossing, drilling to required depth from top of rail including maintenance of drill hole in all types of strata including hard rock, all depth to accommodate the pipeline and CS conduit for OFC laying at all conditions encountered during railway crossing by approved HDD methods for providing minimum cover of 7 m below ground level throughout railway land width and also at least 7 meters below formation level in cutting throughout the railway land width or as specified in RDSO guidelines / code / specification or the actual depth as decided by concerned authority, whichever is more. For railway crossings, class 4 pipe shall be used within railway land and up to a distance of risk radius outside the railway boundary (ROU/ROW) on either side.  Laying of the pipeline (for water body, road and Railways crossing) by the approved HDD method across the crossing including, strings preparation of pipes, welding, testing, 100% NDT by radiography by x-ray, welding repair and retest, coating of field joints with special type Dirax Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with special PERP-60E repair patch or equivalent material (including supply of repair patch) as per specification, pre-hydrotest of complete strings made for crossing etc.  String preparation and laying of 6 inch CS conduit for OFC by HDD method, welding etc.							
	Backfilling of the ditch/ trench including restoration and clean-up of area, disposal of drilling fluid & waste etc. to the satisfaction of Engineer-in-charge and /or as directed by Concerned Authority.							
	Gauging, Piggng, Cleaning, Post installation hydrotest,dewatering, swabbing and tie-in with pipeline at either banks etc.as per specifications, codes, approved drawings, calculations, methods and as directed by Engineer-in-charge and provision of contract document; getting NOC from all concerned authority of the facilities crossed.							
<b>7.1</b>	<b>Details of Crossing</b>							
<b>7.1.1</b>	Any type of crossings for carrier pipeline of size 323.9 mm OD x 7.14 mm thk of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	2000					
<b>7.1.2</b>	Any type of crossings for carrier pipeline of size 323.9 mm OD x 9.53 mm thk of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	300					
	<b>Note :</b> (i) The width indicated are not for any single crossings. This shall be as per requirement at site for crossing at different locations. (ii) Width of the crossings are indicated in respective Crossing drawing enclosed with the tender document. Crossing width may vary as per site condition. String length for HDD shall vary as per design calculations so that pipe is not under stress as permitted by codes/ specifications. However final length of string & cover from top of pipe shall be decided and approved by concerned Authority / Engineer-in-charge.							



		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA -TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-4</b></p>						
1.0		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR		Service Accounting Codes (SAC)
MAINLINE WORKS			Section-12			Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
Sl. No.	Description of Item			In Figure	In Words	In Figure		
	(iii) It is sole discretion of the Contractor to do HDD crossing of mainline pipe as well as CS conduit pipe either by suitably strapping together both the carrier pipe & CS conduit and pulled through the same drill hole or making separate HDD for 6" CS conduit for OFC laying at minimum 4m distance apart from centreline of HDD of mainline either side. However, authority requirement shall be binding on Contractor. No separate payment for HDD for 6" CS conduit shall be paid.							
	(iv) Payment for the length of final tied-in carrier pipeline string with mainline and CS conduit laid by HDD method are inclusive in the above item rate and no separate payment shall be made under other clause mentioned elsewhere.							
	(v) This item is applicable for Railway crossings, specific road crossings (in case of requirement as per concerned authority permission or as decided by EIC) and waterbody crossings duly approved by EIC. The above rate is also applicable in case of change in crossing methodology of any particular crossing (as indicated in APPENDIX-VIII to PJS) by EIC.							
	(vi) Payment for supply of CS conduit shall be made as per rates available elsewhere in the SOR.							
8.0	<b>INSTALLATION OF CASING PIPE AND CS CONDUIT</b>							
	Complete work of installation of casing (between the limits as defined in approved drawings) including handling, loading, transportation, unloading to Contractor's own stock yard/ work site.							
	Pre-construction survey and making of crossing drawing based on site visit and getting their approval from concerned Authority/ Engineer-in-charge prior to starting the execution of work.							
	String preparation of pipes (carrier pipes-12"NB, API5L Gr. X-70, 7.14/ 9.53 mm thk.), welding, testing, 100 % NDT by radiography by X-ray, welding repair and retest, coating of field joints with Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with repair patch or equivalent material (including supply of repair patch) as per specification, pre-hydrotest of complete strings made for crossing etc.							
	String preparation of 6 inch CS conduit for OFC, welding.							
	Installation of casing pipe and CS conduit for OFC by Jacking/ boring and open cut wherever required for all depth in all type of soils and terrain separately for carrier pipe insertion and OFC/ HDPE duct . All other Contractor supplied materials like casing insulators and casing end seals as per enclosed specification/ drawings materials for casing vents and drain assembly etc. including supply of all other materials, equipments, consumables, manpower, welding including visual inspection of all weld joints.							
	Preparation of required length of carrier pipeline welded string including all other works as mentioned in SOR Sl. No. 1.0 above and as per specification/ drawings. Insertion of carrier pipe in casing pipe after above ground pretesting at specified test pressure including installation of casing insulators as per approved design calculation, specification/ drawings. Installation of vent and drain assembly, fixing of end seals, backfilling and restoration as original of the facilities crossed.							
	Backfilling of the ditch/ trench including restoration and cleanup of area to the satisfaction of Engineer-in-charge and/or as directed by concerned Authority.							
	Pigging, cleaning, Post installation hydrotest, dewatering, swabbing and tie-in with pipeline as per specification, approved procedure, drawing etc. and instruction of Engineer-in-charge and provision of contract document, getting NOC from all concerned Authority of the facilities crossed.							



 IGGL	SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA-TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-4						 MECON LTD
	1.0	<b>MAINLINE WORKS</b>	Unit	Quantity Section-12	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
Sl. No.	Description of Item			In Figure	In Words	In Figure	
8.1	For 12" NB pipeline						
8.1.1	Installation of Casing Pipe by Jacking with Auger Boring of Casing Pipe -minimum 18" NB x minimum 7 mm wall thk. (for 12" NB pipeline)	M	75				
8.1.2	Installation of Casing Pipe by Open Cut -minimum 18" NB x minimum 7 mm wall thk. (for 12" NB pipeline)	M	25				
8.1.3	Installation of CS Conduit 150mm, 6.4mm wall thk. (for OFC & their conduit) by Pipe Jacking with auger Boring	M	75				
8.1.4	Installation of CS Conduit 150mm, 6.4mm wall thk. (for OFC & their conduit) by Open Cut	M	300				
8.1.5	Supply of Casing pipe of minimum 18" NB x minimum 7 mm wall thk., IS 3589, Fe:410 or equivalent (for 12" NB carrier pipe).	M	100				
8.1.6	Complete work for removal of 3LPE coating from minimum 18" NB linepipe through heating/ chiseling including mechanical cleaning of pipe surface as per specification. Supply of all consumables, deployment of tools/ tackles, manpower, equipment for performing the works to entire satisfaction of EIC.	M	100				
	Note : (i) The width indicated are not for any single crossings. This shall be as per requirement at site for crossing at different locations.						
	(ii) Actual length & cover from top of casing pipe string may vary depending upon site conditions, crossing methods, approved drawings etc. and/ or decided by concerned Authority/ Engineer-in-charge.						
	(iii) Exact centreline location of boring of 6" NB CS conduit for HDPE Ducts / OFC as a casing pipe shall be minimum 4.0m either side based on as installed centreline dimension of carrier pipe inside casing pipe at all cased crossing. The cover to top of CS conduit pipe for HDPE Ducts / OFC shall be same as cover to top of the pipeline/ casing pipe as applicable.						
	(iv) Payment for the length of carrier pipeline string shall be bored casing pipeline length plus two meters and is inclusive in the above item. Payment for additional length of carrier pipeline string shall be paid under SOR item no. 1.0						
	(v) Methodology for National / State highway and Railway crossing shall be decided during execution as per the permissions available.						
	(vi) This rate is also applicable in case of change in crossing methodology of any particular crossing (as indicated in APPENDIX-VIII to PJS) by EIC.						
	(vii) Casing pipe may be provided as free issue material to the contractor. Before placement of order (in case of non-availability of Casing pipe as free issue), the contractor shall take due approval of EIC.						
	(viii) Payment for supply of CS conduit shall be made as per rates available elsewhere in the SOR.						
9.0	<b>PERMANENT MARKERS</b>						
	Supply, fabrication and installation of following types of permanent markers along the route including all associated civil works such as excavation in all types of soil, construction of pedestals and grouting with concrete, cleaning, supply and application of approved colour and quality of primer and paint, stencil letter cutting for numbers, direction, chainage, etc., restoration of area to original condition and performing all works as per drawings, specifications and instructions of Engineer-in-charge.						
9.1	Pipeline Warning Signs	Nos.	180				
9.2	Right-of-way boundary markers	Nos.	688				
9.3	Kilometer Posts	Nos.	70				
9.4	Direction Markers	Nos.	455				
9.5	Aerial Markers	Nos.	17				
9.6	Navigable Waterway Markers	Nos.	10				
	Note : Final quantities of Marker may vary. This shall be confirmed by EIC before fabrication.						
10.0	<b>REPAIR OF DEFECTS IN LINE PIPE AND PIPE COATING (ATTRIBUTABLE TO OWNER)</b>						
	Repair of Owner supplied line pipe and external corrosion coating of all thicknesses noted at the time of taking delivery by Contractor, including performing all works as per specifications and directions of Engineer-in-charge.						
10.1	<b>Repair of coating defects in 3-Layer PE Coating Line Pipe</b>						
	Repair of Holiday in Coating						
10.1.1	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.	cm <sup>2</sup>	500				
10.2	<b>Repair of Defects in Pipes</b>						
10.2.1	Cutting and rebeveling (dents / damage in bevels exceeding 3mm in depth)	No.	50				
10.2.2	Jack out (dents in bevels ranging between 1mm and 3mm in depth)	No.	50				



		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA-TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-I-4						
1.0 MAINLINE WORKS		Unit	Quantity Section-12	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
Sl. No.	Description of Item			In Figure	In Words	In Figure		
11.0	<b>LEAKS/ BURSTS (Attributable to Owner)</b>							
11.1	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							
11.1.1	Major leak (Detected by visual method) For pipeline size 323.9 mm (12") OD	Lumpsum	1					
	Note: (1) This rate is applicable for any number of repairs required in the section for manufacturing defects in Owner supplied material only. (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.							
11.2	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							
11.2.1	Minor leak (Detected by sectionalizing method) For pipeline size 323.9 mm (12") OD	Lumpsum	1					
	Note: (1) This rate is applicable for any number of repairs required in the section for manufacturing defects in Owner supplied material only. (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.							
12.0	<b>VIDEOGRAPHY &amp; PHOTOGRAPHY</b>							
12.1	Carrying out the videography & Photography of the pipeline section (Agartala-Tulamura Section) construction activities. The work shall be carried out in two phases.  Phase 1: Videography & photography of the entire route prior to construction activities i.e. pipeline route, location of various stations, TOP, all crossing like road / railways, river, etc.  Phase 2: Videography & photography during construction activities of Mainline Works i.e. Stringing, Welding, Radiography, Joint Coating, Lowering, Backfilling, etc. performing all works as per specification and instructions of EIC and other provision of contract document.  Notes: 1. Drone shall be used for videography & photography of Phase-1 activities and restoration activities. 2. Videography shall be of High definition quality.	Km	86					
13.0	<b>MAGNETIC CLEANING AND ELECTRONIC GEOMETRY PIGGING</b>							
13.1	Mobilisation/demobilisation of pigging tools, tackles, consumables, accessories and personnel by contractor at work site including but not limited to magnet pig, electronic geometry pigs and pig tracking device, temporary launcher and receiver as per specification and other provision of the bid document including supply of material, equipment, manpower, etc. as required for geometry inspection and magnet cleaning including calibration of magnetic and caliper tools at works site, running of adequate no. of magnet pigs and electronic geometry pigs (caliper) including pig tracking at 5 to 10 Km interval, preparation of site report on pipeline, data analysis at Contractors facility as per specification and provisions of the Bid Document.	Km	86					
14.0	<b>PRE-COMMISSIONING OF ENTIRE UNDERGROUND PIPELINE AND TERMINALS / STATIONS.</b>  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 pigs 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.							
14.1	<b>Precommissioning Checks</b>							
14.1.1	Pre-commissioning of pipeline including terminals / stations	Km	86					



		<p style="text-align: center;">SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA -TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</p>						
1.0 MAINLINE WORKS		Unit	Quantity Section-12	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
Sl. No.	Description of Item			In Figure	In Words	In Figure		
14.2	<b>Dewatering and swabbing</b>							
14.2.1	Dewatering and swabbing of pipeline including terminals / stations	Km	86					
15.0	<b>DRYING</b>							
	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.							
15.1	Drying by vacuum drying method	Km	86					

		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA -TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-4						
1.0 MAINLINE WORKS		Unit	Quantity Section-12	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
Sl. No.	Description of Item			In Figure	In Words	In Figure		
16.0	<b>COMMISSIONING ASSISTANCE AND COMMISSIONING</b>							
16.1	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.	Km	86					
17	<b>IDLE TIME PRESERVATION:</b>							
17.1	Preservation of complete pipeline section including sub sections, associated facilities and terminal facilities (installed by Contractor) for a period of one month and its maintenance by filling and pressurising with nitrogen to a positive pressure of 2 bars (g). Supply and maintenance of nitrogen at required pressure, 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.	Km	86					
17.2	Preservation and Maintenance of pipeline at a positive pressure of 2 bars (g) beyond 1 month	Km/month	86					
18	<b>DIGITIZATION OF RADIOGRAPHY FILMS:</b>							
18.1	Carrying out digitization of all radiographic films (mainline and terminal piping) in the form of digital images (which can then be archived safely for long life and electronic retrieval) complying to all the legal local rules, codes and international standards. Submission of digital images of radiographic film along with compatible software in 6 sets of CD/DVD for electronic viewing /retrieval.	Lumpsum	1					
19	<b>TRANSPORTATION OF FITTINGS, FLANGES, VALVES ETC.</b>							
19.1	"Receiving and taking over", handling, lifting, loading on truck, transportation and unloading of Company supplied fittings, flanges and valves etc from any storage yard (other than the designated storage yard for the project) to worksite / contractor's storage yard/ any other storage yard or as decided by EIC. The above work also includes stacking the flanges, fittings and valves etc. properly. Above work shall be carried out as per standard drawing, specification, instruction of Owner and other provision of contract document.  Notes: i) The quantities given in above item no. are tentative only and shall not be considered to be binding. The quantities may be increased, decreased or deleted as per the actual site requirement and instructions / recommendations of Owner. The unit rate shall be operated to work out the final payment to the contractor. ii) Above price shall be inclusive of all type of taxes & duties, transit insurance during transportation & other insurance etc. including all financial & commercial implication as per the tender document. No other payment except as per quoted unit rate & executed quantities will be payable by the Owner.	MT-Km	500					
20.0	<b>LONG RADIUS BENDS</b>							
20.1	Supply of Long Radius Bends (R = 6D) for 12" dia. pipe, X-70 (thk. 7.92/ 9.53 mm) as per T.S. (No. MEC/TS/05/62/015) & Data Sheet No. MEC/23UU/05/28/M/001/DS-015 enclosed in Tender Document (Bare pipe for LR Bends shall be free issue to the contractor).							
20.1.1	20° - 30°	Nos.	70					
20.1.2	31° - 45°	Nos.	75					
20.1.3	46° - 60°	Nos.	10					
20.1.4	61° - 90°	Nos.	5					
	Note : The quantities of LR Bends may vary. For final quantity, approval shall be taken from EIC before placement of order.							
21.0	<b>SUPPLY AND COATING OF CS CONDUIT</b>							
	Complete work of supply of carbon steel pipes required for crossing, 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 indicated in SCC, drawings, specification and instructions of Engineer-in-charge and as per all provisions of the CONTRACT DOCUMENT. And also Handling including lifting, transportation from Contractor Stores to CONTRACTOR'S workshop for fabrication and/ or to work site.							
21.1	All works related to supply of CS conduit of size 150 mm (6 inch), 6.4 mm thick IS 3589 (Fe 410) or equivalent ERW pipe for various crossings.	M	6800					
21.2	All works related to coating of CS conduit of size 150 mm (6 inch), 6.4 mm thick with coal tar epoxy coating of minimum 600 microns (after proper cleaning) including supply of coating material, consumables etc.	M	6800					
22.0	<b>TRANSPORTATION OF LINE PIPE</b>							
22.1	"Receiving and taking over", handling, lifting, loading on trailers, transportation and unloading of Company supplied line pipe from one dumpyard to other dumpyard as decided by EIC. The above work also includes stacking the pipes on wooden sleepers/ sand pads. Above work shall be carried out as per standard drawing, specification, instruction of Owner and other provision of contract document.  Notes: i) The quantities given in above item no. are tentative only and shall not be considered to be binding. The quantities may be increased, decreased or deleted as per the actual site requirement and instructions / recommendations of Owner. The unit rate shall be operated to work out the final payment to the contractor. ii) Above price shall be inclusive of all type of taxes & duties, transit insurance during transportation & other insurance etc. including all financial & commercial implication as per the tender document. No other payment except as per quoted unit rate & executed quantities will be payable by the Owner.	MT-Km	28000					



 IGGL	SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA-TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-4						 MECON LTD
1.0	<b>MAINLINE WORKS</b>	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR	Service Accounting Codes (SAC)
Sl. No.	Description of Item			In Figure	In Words	Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	
23	<b>DE-MOBILIZATION AND RE-MOBILIZATION</b>						
23.1	De-Mobilisation of complete manpower, equipment, tools and tackles etc (in case of complete site activities are stalled or due to reasons solely attributable to owner or due to Force Majeure) and remobilization of the same within 1 month including setting up of various facilities required to carry out the works as per direction of Engineer- In-charge. Time interval between any set of Demobilisation and Re-Mobilisation shall be maximum 6 months. List of various equipment and manpower to be remobilized for this purpose shall be as per APPENDIX-X and XI to PJS (mechanical) respectively.	Lumpsum	1				
24.0	<b>GEO TEXTILE BAGS FOR ANTI-BUOYANCY</b>						
24.1	Additional works over and above SOR Sl. No. 1.0 for design, manufacture and supply of Non-biodegradable geo-textile bags (made of polypropylene fabric) materials and installation of geo-textile bags duly filled with gravel / stone ballast on pipelines of all wall thickness for anti buoyancy as per specification, drawing, and instructions of Engineer-in-charge and other provisions of the contract document.	Nos.	50				
25.0	<b>PIPE LAYING BY THRUST BORING/ MACHINE MOLING TECHNIQUE (WITHOUT CASING) FOR CARRIER PIPE AND HDPE DUCT</b>						
	Complete work of any type of crossing (between the ROW limits as defined in Crossing Drawings enclosed with Bid Document) using Thrust Boring/ Machine Moling technique for Carrier pipe along with HDPE duct for OFC including "Receiving and taking over" owner supplied three layer PE coated line pipes from Owner's designated place to issue/ dump site(s) and transportation to Contractor's stock yard/ work shop/ work site including all handling, loading, unloading, aligning etc. supply of all Contractor supplied material including consumables, manpower, equipment, other resources to work site(s). Pre-construction survey and making of crossing drawing based on site visit and getting their approval from concerned Authority/ Engineer-in-charge prior to starting the execution of work. Execution of works in accordance with specifications and instruction of Engineer-in-charge and as per all provision of Contract Document.						
25.1	Installation of 12" (323.9) mm OD, 7.14 mm wall thk of API 5L Grade X-70 carrier pipe along with HDPE duct using Thrust Boring/Machine Moling technique (without Casing)	M	300				
	Notes: 1. This item rate is applicable for complete work of crossing using Thrust Boring/Machine Moling technique (without Casing) for Carrier pipe including stringing, welding, 100% radiography, joint coating, restoration of pit etc. 2. The length of pipeline are tentative and for multiple crossings at different locations wherever required. 3. This SOR item shall be applicable in case of soft soil and as per instruction and after due approval of Engineer-in-charge. 4. It is sole discretion of the Contractor to carryout the crossing of carrier pipe alongwith HDPE Duct through the same drill hole or making separate holes for carrier pipes and HDPE duct. No separate payment shall be made for HDPE duct for said crossing.						
26.0	<b>ROU MANAGEMENT FOR MAINLINE WORKS</b>						
26.1	ROU management of entire pipeline route (Agartala-Tulamura Section) covered under SOR item no. 1 above, during preconstruction survey, opening of ROU and maintenance of ROU upto completion of entire Mainline works (including CP and Telecom works); all type of liaisoning/coordination with local people/villagers, farmers, land owners or any other person/ institution etc. directly or indirectly linked with the pipeline/affected by the pipeline laying activities for ensuring hindrance-free construction works at site; obtaining NOC from respective land owner(s), farmers etc. as and when required; Liaisoning/Coordination and obtaining work permits, NOC from various statutory authorities having jurisdiction for execution of the crossings by open cut method covered under mainline works (SOR item 1) and complying with all stipulations/ conditions/ recommendations of the said authorities and tender document/ specifications.	Km	86				
	Notes: 1. Statutory fees/ Payment as per govt. guidelines to farmers etc against ROU opening shall be paid by the owner. 2. Payment shall be made as below- a) 40% after completion of welding b) 50% after completion of lowering & back-filling c) 10% after obtaining NOC (after restoration) from respective land owner / farmers and statutory authorities as required .						
27.0	<b>PIPELINE LAYING/INSTALLATION BY HDD (OTHER THAN CROSSING BY HDD)</b>						
	Complete work of laying of pipeline by HDD method including "Receiving and taking over" owner supplied three layer PE coated line pipes from owner's designated place to issue/dump site(s) and transportation to contractor's stock yard/work site including all handling, loading, unloading, aligning etc. supply of all contractor supplied material including consumables, manpower, equipment, other resources to work site(s) and acquiring the required land for storage. Execution of, but not limited to, following works in accordance with specifications and instruction of engineer-in-charge and as per all provision of Contract Document.						
	Pre-construction survey, necessary cover required over the carrier pipeline, based on site visit, collection of data (if required) from concerned Authority including design and detail engineering and making of drawings for getting their approval from concerned Authority/Engineer-in-charge, getting work permit/NOC for utilities crossings (if any) encountered prior to start the execution of work.						
	Drilling to required depth from top of ground (min 1.5 mtrs.) including maintenance of drill hole in all types of strata including hard rock, all depth to accommodate the pipeline and CS conduit at all conditions encountered by approved HDD methods for providing minimum cover specified in code/specification or the actual depth as decided by concerned authority, whichever is more.						
	Laying of the pipeline along with CS conduit for HDPE Duct(s) by HDD method including strings preparation of pipes, welding, testing, 100 % NDT by radiography by X-ray, welding repair and retest, coating of field joints with special type Dirax Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with special PERP-60E repair patch or equivalent material (including supply of repair patch) as per specification, pre-hydrotest of complete strings made for laying etc.						
	String preparation and laying of 6 inch CS conduit for OFC by HDD method, welding etc.						
	Backfilling of the ditch/trench including restoration and clean-up of area, disposal of drilling fluid & waste etc. to the satisfaction of Engineer-in-charge and/or as directed by concerned Authority.						
	Gauging, pigging, Cleaning, Pre & Post installation hydrotest, dewatering, swabbing and tie-in with pipeline at both ends etc. all other works including pigging, Cleaning, final hydrotesting etc. alongwith mainline works (as mentioned above) required as per specifications, codes, approved drawings, calculations, methods and as directed by Engineer-in-charge and provision of contract document, getting NOC from all concerned authority of the facilities.						
	Installation /laying of Coated Line Pipes as per following details:						



		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA -TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</b></p>									
1.0		<b>MAINLINE WORKS</b>						<p style="text-align: center;">Prices in INR</p>			
		Unit		Quantity Section-12		Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
Sl. No.		Description of Item						In Figure		In Words	
		Specified dia (mm) OD		Thk (mm) Material		Coating Type		Length of each pipe		with CS conduit	
27.1	323.9	7.14	API 5L Gr. X-70	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)			M	500		
27.2	323.9	7.14	API 5L Gr. X-70	3 Layer PE Coating (Externally)	Double random (approx. 11.5 m to 12.5 m)			M	2500		
		<p>Note: (i) Laying length may vary as per site condition. Tenderer are advised to visit the site for actual assessment of extent of laying and to access the maximum extent of cover which may have to be provided. Actual string length for HDD shall be as per design calculations so that pipe is not under stress as permitted by codes/ specifications. Final length of string shall be decided after decision of minimum cover requirement by concerned Authority/ Engineer-in-charge.</p> <p>(ii) Payment for the length of final tie-in carrier pipeline string are inclusive in the above item rate and no separate payment shall be made under other item mentioned elsewhere.</p> <p>(iii) The Contractor has to quote on running meter basis for laying. No extra payment shall be made against this item.</p> <p>(iv) The above rate is inclusive of HDD of CS conduit for HDPE duct. It is sole discretion of the Contractor to carryout HDD of carrier pipe alongwith CS conduit through the same drill hole or making separate holes for carrier pipe and CS conduit. No extra payment shall be made against the same.</p> <p>(v) Length of above laying work indicated are tentative. The length indicated are not for any single location. This shall be as per requirement at site for laying at different locations.</p> <p>(vi) This SOR item shall be executed as per site condition after due approval from EIC.</p> <p>(vii) Payment for supply of CS conduit shall be made as per rates available elsewhere in the SOR.</p>									
28.0	<b>ZERO DEGREE HDD</b>										
		<p>Complete work of any crossing (between the ROW limits as defined in Crossing Drawings enclosed with Bid Document) by Zero degree HDD method including "Receiving and taking over" owner supplied three layer PE coated line pipes from Owner's designated place to issue/ dump site(s) and transportation to Contractor's stock yard/ work shop/ work site including all handling, loading, unloading, aligning etc. supply of all Contractor supplied material including consumables, deployment of manpower, equipment, other resources to work site(s) and acquiring the required land for storage., Execution of, but not limited to, following works in accordance with specifications and instruction of Engineer-in-charge and as per all provision of Contract Document.</p> <p>- Pre-construction survey based on site visit, collection of data (if required) from concerned Authority including design and detail engineering, getting work permit/ NOC for the crossing as well as utility crossings (if any) encountered during crossing prior to start of execution of work.</p> <p>- Making tie-in pits at entry and exit sides as required, drilling to required depth including maintenance of drill hole in all types of strata including hard rock, all depth to accommodate the pipeline and CS conduit for HDPE duct for OFC laying at all conditions encountered during crossing by approved HDD methods for providing minimum cover specified in code/ specification or the actual depth as decided by concerned authority, whichever is more.</p> <p>- Trenching at pipsides as required, laying of the pipeline by the approved HDD method at zero degree angle across the crossing including, strings preparation of pipes, welding, testing, 100% NDT by radiography by x-ray, welding repair and retest, coating of field joints with special type Dirax Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with special PERP-60E repair patch or equivalent material (including supply of repair patch) as per specification, pre-installation hydrotesting and holiday testing before or during installation of pipeline etc. Coating integrity shall also be ensured after pulling.</p> <p>- String preparation and laying of 6 inch CS conduit for OFC by HDD method, welding etc.</p>									

 IGGL		<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION-12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA-TULAMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km SPURLINE (TRIPURA STATE) Bid Doc. No.: 05/5123UU/IGGL/001-I-4</b>					 MECON LTD		
1.0		Unit		Quantity		Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Prices in INR	
MAINLINE WORKS				Section-12				Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	
Sl. No.	Description of Item			In Figure	In Words	In Figure		Service Accounting Codes (SAC)	
	Backfilling of the ditch/ trench including restoration and clean-up of area, disposal of drilling fluid & waste etc. to the satisfaction of Engineer-in-charge and /or as directed by Concerned Authority.								
	Cleaning and tie-in with pipeline at either sides as per specifications, codes, approved drawings, calculations, methods and as directed by Engineer-in-charge and provision of contract document, getting NOC from all concerned authority of the facilities crossed.								
28.1	<b>Details of Crossing</b>								
28.1.1	Any type of crossing for carrier pipeline of size 323.9 mm OD x 7.14 mm thk of API 5L Grade X-70 and CS conduit of size 150 NB X 6.4 mm thick of IS 3589 or equivalent ERW Pipe for HDPE duct and OFC.	M	350						
	Note : (i) Width of above crossings indicated are tentative. The width indicated are not for any single crossings. This shall be as per requirement at site for crossing at different locations.								
	(ii) Width of the crossings are indicated in respective Crossing drawing enclosed with the tender document. Crossing width may vary as per site condition. During installation, pipe shall not be under stress as permitted by codes/specifications. Final length of string & cover from top of pipe shall be decided and approved by concerned Authority / Engineer-in-charge.								
	(iii) It is sole discretion of the Contractor to do HDD crossing of mainline pipe as well as CS conduit pipe either by suitably strapping together both the carrier pipe & CS conduit and pulled through the same drill hole or making separate HDD for 6" CS conduit for OFC laying at minimum 4m distance apart from centreline of HDD of mainline either side. However, requirement of authority shall be binding on Contractor. No separate payment for HDD for 6" CS conduit shall be paid.								
	(iv) Payment for the length of final tied-in carrier pipeline string with mainline and CS conduit laid by approved HDD method are inclusive in the above item rate and no separate payment shall be made under other clause mentioned elsewhere. Payment for the installed length shall be limited to ROU width plus 2 meters.								
	(v) This item is applicable for all type of road crossings except specific road crossings for which alternate crossing methodology is adopted as per authority permission as decided by EIC. This item is also applicable for small waterbody crossings duly approved by EIC and also in case of change in crossing methodology of any particular crossing (as indicated in APPENDIX-VIII to PJS) by EIC.								
	(vi) Payment for supply of CS conduit shall be made as per rates available elsewhere in the SOR.								
29.0	<b>HELICOPTER SURVEILLANCE</b>								
	Helicopter Surveillance hiring a Twin Engine Type 2+4 seater, AC helicopter for pipeline air surveillance of entire pipeline route (Agartala-Tulamura line) as per scope of work defined in tender document including transporting the fuel to various places and making arrangements for fuelling the helicopter at various locations complete in all respects as per the directions of EIC. The base shall be at Agartala.	Hours	50						
30.0	<b>SERVICES FOR IMPLEMENTATION OF PIPELINE INFORMATION MANAGEMENT SYSTEM</b>								
30.1	The complete scope of providing services for implementation of GIS based & web based Pipeline Information Management System (PIMS) for 12" x 86 Km (approx.) (Agartala-Tulamura pipeline section) but not limited to setting up of requisite offices in each section/part (as required) along with all requisite equipment & manpower, liaison for collection of data from owner/owner's representative/ owner's execution agencies (i.e. FIM Suppliers, Contractor for Pipeline System, Stations Works, Terminal Works, SCADA Works, Telecom Works, HDD works, PCP Works, etc. as applicable), GIS survey, mapping, transferring & conversion of data for configuration of application, tracking pre-construction activities, ROU & land management, material tracking, planning, monitoring construction, commissioning and post construction activities, uploading of all as-built drawings/ reports/ procedures/ manuals/ documents, integration of different activities/ functions in electronic form. The scope shall also include supply of equipment and hardware, training of owner's personnel, handing over of software developed along with requisite license complete in all respect as per scope of work detailed in SCC, Particular Job Specification, General technical specifications, SOR etc. enclosed in tender document and as per directions of Engineer-in-charge.	Lumpsum	1						
	Above services for implementation of GIS based & Web Based Pipeline information management system for 12" x 86 Km (approx.) +/- 5% long Mainline and all Associated Stations / Terminals) as per the details given below :								
	Refer Schematic drawing attached in the tender for more details								
	<b>Notes:</b>								
	i) The above SOR item includes the cost of setting up of 1 no. back-up support office at Guwahati/ Agartala / Delhi/ NCR throughout the project duration. No separate payment shall be made for the same.								
	ii) Though client & consultant shall extend their full support and will try to facilitate, however it shall be the sole responsibility of the PIMS contractor to liaison with the concerned party (client, consultant, contractors etc.) for obtaining all the documents for uploading in PIMS module. Client/ consultant will not be responsible for any delays in obtaining documents from concerned party.								
	iii) The contractor shall be responsible for implementation of PIMS system in pipeline projects (mainline as well as stations). The work may be executed in multiple stretches by multiple contractors.								
	iv) The cost towards supply & making operational / functional of 2 Nos. GPS instruments as per Scope of Work / Supply, other specifications enclosed with the tender document are included in the above SOR item.								
	v) The cost towards supply & installation of One (01) Nos. hardware (for Guwahati/Panisagar/delhi/NCR) including computer with complete accessories and peripheral for PIMS application display as per tender and making operational / functional including training to owner's personnel and final handing over of the entire system in excellent working condition to owner are included in the above SOR item.								
	vi) The above SOR includes the cost of handing over of PIMS software Application with requisite license.								
30.2	Providing Technical Assistance for Twelve (12) months beyond contractual completion date or date of handing over of complete PIMS system, whichever is later. This man-day rate includes transportation, lodging, boarding, local travel, food and all other expenses required to provide technical assistance.	Man-day	30						
<b>Note:</b>	(i) The bidder must indicate currency(ies) against each quoted item of the SOR.								
	(ii) The total amount shall also be given by the bidder in the quoted currency(ies).								
				Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)					
Place				Signature of Authorised Signatory					
Date				Name :					
Tender No.:				Designation :					
Offer No. & Date :				Seal :					

		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b></p> <p style="text-align: center;"><b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b></p> <p style="text-align: center;">Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</p>							
IGGL		Prices in INR						MECON LTD	
2.0		<b>TEMPORARY CATHODIC PROTECTION WORK</b>							
Sl. No.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)		Total Amount inclusive of all applicable taxes & duties except GST		Service Accounting Codes (SAC)	
				In Figures	In Words	In Figures			
1.1	Survey, Design, detail engineering, Manufacturing, Inspection/FAT (Factory acceptance test), supply, Packing, transportation to site, storage, installation, testing & commissioning of the temporary Cathodic protection system using Mg (Min 5.0 Kg Each)/ Zn galvanic anodes to protect the external surface of <b>12" x 85.836 Km (Tripura State)</b> long 3LPE Coated pipeline From RT cum Tap-Off cum Future DT cum Injection Point at Agartala at Ch. 0.00 Km to DT Tulumura at Ch. 85.836 Km against corrosion for a design life of minimum 2 year or till commissioning of PCP system as per standard specification enclosed with the tender for temporary cathodic protection system, approved design document, data sheets & drawings. Scope shall also include but not limited to the following for completion of jobs:	LS	1						
	Temporary CP system shall be installed immediately of the any lowered section but not later than 15 days from the time of lowering of pipeline segments. If TCP system is not provided for any of the lowered section in the specified time, necessary deduction shall be carried out from the contractor's head as non-compliance of work as recommended by the Engineer-In-Charge.								
	Measurement of soil resistivity along the right of way of the main pipeline (At 500mtr Interval) & collection of soil & water samples along ROW at depth of 1M, 2M & 3M at every 10km interval (Min 03 sample at each location) for its chemical & microbial analysis along the pipeline route as per specification for corrosion survey MEC/TS/05/21/016C & NACE Standard TM0106-2006 for detection of SRB, ARB, TDS, pH, Rx, Moisture & Total dissolved H2S etc. These sampled shall be stored in sealed container and stored in the dark place.								
	Collection of additional data related to cathodic protection along the right of way of pipeline as per standard specifications during the survey along with GPS coordinates. Site survey report shall include detailed layout drawings of pipeline / facilities, reflecting all foreign pipeline / Overhead power transmission lines crossings & parallelism, Power cables, river, railway traction (electrified/non-electrified), Substations (HVAC/HVDC), fabrication yard, existing CP facilities (such as transformer rectifiers, anode ground beds, test facilities etc.), soil resistivity survey locations, road crossing locations, etc. Site survey includes details of all AC, DC interfering elements all along pipeline ROW. Site survey shall be carried out along the pipeline route to identify the HVAC, HVDC crossing locations and/or HVAC, HVDC line parallelisms (This proposed pipeline is parallel to the HVDC line). Site survey report shall include a comprehensive list which includes the HVAC, HVDC line rating in KV, distance of HVAC, HVDC line / tower footings from pipelines and length of parallelism.								
	Design, Detailed Engineering, Preparation of Design Document, Preparation of Test station schedule & Bill of Material as per the corrosion survey & Chemical analysis of Soil / Water samples for Temporary Cathodic Protection system. Total number of anode shall be calculated as per total anode weight requirement & total protection current required.								
	Supply, installation, testing & commissioning of Mg (Min 5.0 Kg)/ Mg ribbon anodes with backfill as per the standard specification- MEC/TS/05/E9/016A. The weight of the Mg Anode & the total nos. of anodes shall be calculated as per the corrosion survey, soil chemical analysis, total weight and current requirement of the pipeline section. However, Min one anode is to be installed at every one KM with test station.								
	Supply, Installation, Testing & commissioning of Test stations (Big Size & Normal Size) weather proof (IP-55) as per specification & enclosed drawings. Selection of TLP size will be as per the nos. of cables terminating at the station. TLP shall be sealed at both ends by means of foam sealing/solid sealing. Termination plate inside the TLP should have high insulation level (FRP or higher grade) to avoid drainage of CP current due to insulation leakage.								
	Supply, installation, testing & commissioning of one set of Explosion proof type spark gap arrester (100 kA @ 10/350 uS rating for lightning protection and 8/20 uS 100kA for surge protection) across each insulating joint provided at dispatch terminal, receiving terminal, tap-off, SV & various consumer terminals as per P&ID / specification. All the monolithic insulating joints (MIJs) on the main line, on the tapings for the instruments viz. pressure transmitter, densitometers etc. shall be provided with surge diverters. Note-Surge diverter cable needs to be terminated without any joints across the IJ. Surge diverter with its pre-wired connecting cables with suitable length & size should be provided and installed at the Isolating joint.								
	Supply, installation, testing & commissioning one set of polarization cell (Solid state) with zinc anode at all railway tractions (electrified)/ high tension electrical power transmission line/equipments (all 66 KV & above) crossing or running parallel to the pipeline for grounding purpose as per specification/design basis. (Polarization cell shall be installed underground in cemented tank to avoid theft). Grounding shall be done at regular intervals of maximum 1 km where transmission lines run parallel within 1km of the pipeline and have separation distance of 100 mtr on both side of the pipeline. The rating of the cell shall depend upon anticipated fault current & ground bed resistance at the location of installation and the calculation of the same shall be furnished to MECON for review & selection of rating of the Polarization Cell. However, the rating of polarization cell shall not be less than 3.7 KA @ 30 Cycle & number of 20 kg net weight zinc anode shall not be less than two. Zn Ribbon anode (Dia min. 12x14 mm with back fill in trench) pre-packed AC mitigator wire of MATCOR make or equivalent may also be used for the grounding purpose to get lower grounding resistance (for soil resistivity higher than 25 Ohm-Cm) as per the direction of engineer in-charge. The resistance of grounding shall be limited to 1 ohms max. If any proposed additional line of voltage rating 66kV & above is envisaged during construction, the same shall also be considered in the design document. Contractor shall supply polarization cell along with necessary grounding system for the same. If it is observed during the monthly monitoring that the source of the AC interference is due to the HT lines less than 66kV or LT line, Contractor shall provide the grounding the pipeline through SSD to lower impact of the AC interference on the pipeline.								
	Earthing of above ground cathodically unprotected pipeline at consumer station/DRS station/Metering skid etc, the earth electrode shall be 65 mm dia, 4.5 mm thickness & 3000mm long.								
	Supply, installation, testing & commissioning of external electrical resistance Probe (04 no. ER probe with 1 no. ER probe reading instrument) probes utilizing the electrical resistance technique shall be provided along the pipeline at marshy / vulnerable locations to monitor the external corrosion activity on the pipeline. Location of external ER probe shall be decided during detail engineering.								
	Supply, installation, testing & commissioning of Polarization coupons (01 every 10Km of pipeline) having total area of 100mm x 100mm having one side exposed area of 25 mm x 25 mm without permanent reference cell shall be provided along the pipeline and at additional vulnerable locations (River crossings, Marshy locations, Interference prone area, stray current source locations, foreign pipeline crossings/parallel (at every KM in case of parallel), at CP stations) to monitor the external corrosion activity on the pipeline as per enclosed standard specification. Location of external Polarization coupons & Number of magnetic devices for operation of magnetic switch shall be decided during detail engineering in consultation with IGGL/MECON. Permanent Reference cell shall be manufactured & constructed in line with drawing no. MEC/SD/05/E9/E/CP/1610 Rev-0. Care shall be taken during installation of polarization coupon that bare face of polarization coupon is opposite to pipe & polarization coupon shall not be installed between TLP & Pipeline. The works related to collection of approximately 2-5 m of pipeline material (In pieces of 300 to 1000mm length) for fabrication of Polarization coupons is in the scope of the Contractor and shall be supplied by the Owner.								
	Supply, laying of HDPE sheets (1200mm wide, 6mm thick) between the IGGL pipeline and the other CP protected foreign pipelines at the crossing locations for providing electrical isolation.								
	Bonding of pipeline with foreign pipeline crossing or parallel run as per the scope of work.								


2.0		TEMPORARY CATHODIC PROTECTION WORK				
SI. No.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)	Total Amount inclusive of all applicable taxes & duties except GST	Service Accounting Codes (SAC)
	Supplying, laying, termination, Glanding, ferruling & testing of all the cables of TCP system, Cu-Conductor, XLPE insulated, PVC sheathed, Armd/Unarmed (1Cx6 mm2, 1Cx10 mm2, 1Cx25 mm2, 1Cx35mm2) as required. Cable coming from 60 Mtr for Current measurement test stations (Type_B) & cables for foreign pipeline crossing shall be provided with black sleeves for the identification purpose. Calibration factor of similar thickness pipeline section shall be carried out by the Bidder at each B_Type test stations by arranging separate power source. Bidder shall refer pipe book for the same.					
	Cable to pipe connection by thermit welding/Pin brazing (for charged pipeline) for 35, 25, 10, 6 sq.mm copper cable including excavation and exposing piping, recoating with epoxy, testing etc.					
	Coating Integrity test of HDD section of the pipeline shall be conducted immediately after the completion of the HDD of each HDD section by separate temporary power source and anode bed. Bidder shall submit the procedure as per the NACE requirements for approval along with the design document.					
	PSP Monitoring on monthly basis of the TCP system till commissioning of the permanent cathodic protection system or closure of contract, whichever is earlier.					
	All civil/ structural works related to TCP system including supply of bricks, cement & steel etc. required for completion of the system with other miscellaneous works specified in scope of work.					
<b>Note:</b>	(i) The bidder must indicate currency(ies) against each quoted item of the SOR.  (ii) The total amount shall also be given by the bidder in the quoted currency(ies).	Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).				
Place	:					
Date	:					
Tender No.:						
Offer No. & Date :						

		<p align="center"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b></p> <p align="center"><b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b></p> <p align="center">Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</p>						
		Prices in INR						
3.0	ICMS WORKS							
SI. No.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)		Total Amount inclusive of all applicable taxes & duties except GST		Service Accounting Codes (SAC)
				In Figures	In Words	In Figures		
1.0	Design, engineering, selection, supply of high pressure, retrievable type ER probes flush mounting, body SS 316, with element same as per pipe material or API 5L Gr B material and the element thickness 20 mils, suitable for measurement of Corrosion rate in the range of 0-10mpy along with adaptor with cable as per Scope of work of Corrosion Monitoring System.	Nos.	1					
2.0	Supply of spare ER probes (Flush Mounted as per design) body SS 316, with element same as per pipe material or API 5L Gr B material and the element thickness 20 mils, suitable for measurement of Corrosion rate in the range of 0-10 mpy as per Scope of work of Corrosion Monitoring System.	No.	1					
3.0	Design, engineering, supply of flare weld Access fitting assembly ( non-tee), body carbon steel, acme thread outlet with hollow plug assembly in AISI-316 along with heavy duty protective CS cover, essential spare Rating 6000 psi and sustained design temperature of 65 DEG.C etc. for corrosion ER Probes as per Scope of work of Corrosion Monitoring System.	Nos.	1					
4.0	Design, Engineering, supply, Installation, testing & commissioning of ER Probe panel mounted transmitters with mounting bracket and receivers (online corrosion meter), connecting to existing UPS/Power supply including required cables and suitable to interfacing with existing DCS / SCADA (ModBus RTU protocol) along with all accessories for ER Probes as per Scope of work of Corrosion Monitoring System.	Nos.	1					
5.0	Installation testing & commissioning of ER probes, access fitting assemblies etc without hot tapping, but including welding with the pipeline, testing & commissioning as mentioned in Scope of work.	No.	1					
6.0	Design, engineering, supply of disc coupons of 1.25" dia & 0.125" thickness as per Scope of work of Corrosion Monitoring System. The coupons shall be of same as of pipe material grade & its material of construction.	Nos.	5					
7.0	Design, engineering, supply of retrievable flush disc coupon holders of SS 316 for flush disc coupon as per Scope of work of Corrosion Monitoring System.	Nos.	1					
8.0	Design, engineering, supply of flare weld Access fitting assembly ( non-tee), body carbon steel, acme thread outlet with solid plug assembly of SS 316 alongwith heavy duty protective CS cover, essential spare, Rating 6000 psi and sustained design temperature of 65 DEG.C etc for installation of corrosion coupons as per Scope of work of Corrosion Monitoring System.	Nos.	1					
9.0	Installation, testing & commissioning of coupons with coupon holder and access fitting assembly without hot tapping but including welding with the pipeline, testing & commissioning.	No.	1					
10.0	Supply and installation/laying of all connecting cables (Signal cables) from ER Probe location to control room to interface with DCS/SCADA.	Mtr	400					
11.0	Supply, Construction and handling over of RCC M25 Concrete Pit of internal dimension of size 2m (L) x 2m (B) x 2m (D) with removable cover (Chequered plate) including supply of all required materials such as reinforcement, chequered plate etc. for safe retrieval of Corrosion Coupons & Probes. The wall thickness of pit shall be 150mm min. Rate to include excavation, PCC M10 in mudmat, back filling & restoration at site with minimum gap of 2.0 meters or more below the installation position on pipeline for safe retrieval of ER probes and coupons installed at 6 O'clock position at existing stations as per direction of Engineer-In-Charge complete in all respect. Dimension of the RCC concrete pit shall be as per the safe retrieval of coupons and probes. Net RCC Volume shall be considered for measurement & payment.	M <sup>3</sup>	4					
12.0	Supply of spares for 02 years O&M operation of CMS system as mentioned in Scope of work Annexure-II for dedicated maintenance base.	Lot	1					
<b>Note:</b>				<b>Total Amount of quoted price (inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>				
(i) The bidder must indicate currency(ies) against each quoted item of the SOR.								
(ii) The total amount shall also be given by the bidder in the quoted currency(ies).								
Place	: _____							
Date	: _____							
Tender No.:	_____							
Offer No. & Date :	_____							

 IGGL	<b>SCHEDULE OF RATES FOR                      LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR                      SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>  <b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> Bid Doc. No.: 05/51/23UU/IGGL/001-i-4							 MECON LTD	
4(l) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)
						Prices in INR			
						In Figure	In Words	In Figure	
1.0	<b>PLANT PIPING (ABOVEGROUND/ UNDERGROUND) FABRICATION, ERECTION, INSTALLATION AND TESTING OF PIPING :</b>								
	Transportation including loading, unloading, handling of all piping items from Owner's and/ or Contractor's storage point to work site/ workshop as applicable, 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 SCC & scope of work indicated in SCC, drawings, specification and instructions of Engineer-in-charge and as per all provisions of the CONTRACT DOCUMENT.								
-	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, coupling etc. as required for completion of job.								
-	Weldolets, socketlets, flanges, vent and drain point connection etc., including providing stub-in connections, fabricated fittings and reinforcement pads etc., as required.								
-	Erection including prior cleaning, lifting, placing on pipe sleepers and supports, overhead on racks, skids and at all elevations including installation and carrying out connected activities for all types of valves including supply and fixing of gaskets, studs/ bolts, nuts wherever required for all sizes, levelling, 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.								
-	Preparation of final bill of material based on piping GADs.								
-	Preparation of isometric and fabrication drawings.								
-	Carrying out 100% Non-destructive testing.								
-	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 Engineer-in-charge.								
-	Painting of entire system (including aboveground all pipes fittings, flanges and accessories) as per specification MEC/S/05/21/07 suitable for highly corrosive area environment including supply of approved paints and primers, application of primer and paints, identification lettering/ numbering, colour 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.								
-	Underground portion of piping system shall be protected from external corrosion by providing 3LPE coated heat shrink sleeve or equivalent and application of the same shall be extended upto 500 mm above FGL/ plant area NGL, whichever is higher.								
-	Cleaning and flushing by water/ compressed air, testing of the systems including hydrostatic, pneumatic and any other type of testing as specified, draining, drying by compressed air/other methods approved by COMPANY.								

4(l) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Prices in INR			Service Accounting Codes (SAC)
						Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	
						In Figure	In Words	In Figure	
-	Precommissioning & making operational all piping system and equipments and provide all necessary assistance in terms of supply of man-power, equipment, tools and tackles required amount of nitrogen for purging of entire terminal piping system including equipments etc.								
-	Clean-up and restoration of site, preparation of as built drawings, documents and project records; transportation of surplus free issue material to Owner's designated place(s) as mentioned in Annexure-2 to SCC; completing all works in all respects as per the AFC drawing, specifications, standards and other provisions of Contract and instruction of Engineer-in-charge.								
-	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 commissioning and start up.								
-	Hook-up works (with client/ consumer piping at battery limits) wherever required.								

4(I) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Prices in INR			Service Accounting Codes (SAC)
						Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
						In Figure	In Words	In Figure	
1.1	Complete Carbon Steel Piping Work with painting including all fittings, flanges and supply of all required gaskets, studs/bolts & nuts etc. as described under item 1.0 above								
1.1.1	API 5L, Gr. X-52, PSL-2, Seamless, BE	m	12" NB	S60	54				
1.1.2	ASTM A 106 Gr. B (Charpy), Seamless, BE	m	4" NB	XS	48				
1.1.3	ASTM A333 Gr 6, Seamless BE	m	4" NB	XS	126				
1.1.4	ASTM A 106 Gr. B (Charpy), Seamless, BE	m	2" NB	S80	30				
1.1.5	ASTM A333 Grade 6 Seamless, BE	m	2" NB	XS	6				
1.1.6	ASTM A 106 Gr. B, Seamless, PE	m	1½" NB	S80	3				
1.1.7	ASTM A 106 Gr. B, Seamless, PE	m	1" NB	S80	6				
1.1.8	ASTM A333 Grade 6 Seamless, PE	m	1" NB	XS	6				
1.1.9	ASTM A 106 Gr. B, Seamless, PE	m	¾" NB	S160	6				
1.1.10	ASTM A333 Grade 6 Seamless, PE	m	¾" NB	S160	3				
<b>Note:</b>	1) Pipe Specification and thickness may vary depending upon availability of pipe. No extra payment shall be made for this. 2) All butt welded fittings end shall generally match with connecting pipe wall thickness. However, in case of misalignment, Contractor shall have to do end preparation without any extra cost. 3) All coupling, nipples etc. as required shall be supplied by contractor but no separate payments shall be made as it is covered under erection rate. 4) NDT of Joints below 2" is to be included in above rate. However, payment of radiography of joints (2" and above) shall be paid separately under SOR item for RADIOGRAPHY mentioned elsewhere in this SOR. 5) Surplus free issue material shall be transported to Owner's designated place(s) as mentioned in Annexure-2 to SCC								

Sl. No.	Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Prices in INR			Service Accounting Codes (SAC)
						Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
						In Figure	In Words	In Figure	
 <b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b> <b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> Bid Doc. No.: 05/51/23UU/IGGL/001-i-4									
<b>MECON LTD</b>									
<b>4(I)</b>	<b>PIPING &amp; MECHANICAL WORKS</b>								
<b>2.0</b>	<b>SUPPLY OF ASSORTED PIPE, FLANGES AND FITTINGS</b>								
	Complete work of supply of assorted pipes, flanges and fittings 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 indicated in SCC, drawings, specification and instructions of Engineer-in-charge and as per all provisions of the CONTRACT DOCUMENT.								
-	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.								
<b>2.1</b>	<b>CARBON STEEL PIPES</b>								
2.1.1	API 5L, Gr. X52, PSL-2, Seamless, BE	m	12" NB	S60	54				
2.1.2	API 5L, Gr.B, PSL-2, Seamless, BE	m	8" NB	14.3	18				
2.1.3	ASTM A 106 Gr. B (Charpy), Seamless, BE	m	4" NB	XS	96				
2.1.4	ASTM A333 Gr 6, Seamless BE	m	4" NB	XS	222				
2.1.5	ASTM A 106 Gr. B (Charpy), Seamless, BE	m	2" NB	S80	54				
2.1.6	ASTM A333 Grade 6 Seamless, BE	m	2" NB	XS	6				
2.1.7	ASTM A 106 Gr. B, Seamless, PE	m	1½" NB	S80	3				
2.1.8	ASTM A 106 Gr. B, Seamless, PE	m	1" NB	S80	3				
2.1.9	ASTM A333 Gr 6, Seamless PE	m	1" NB	XS	18				
2.1.10	ASTM A 106 Gr. B, Seamless, PE	m	¾" NB	S160	18				
2.1.11	ASTM A333 Grade 6 Seamless, PE	m	¾" NB	S160	6				
<b>2.2</b>	<b>FLANGES</b>								
2.2.1	Weld Neck [B-16.5, ASTM A694 Gr.F-52 (Charpy), 125 AARH, RF] (End Thickness to match pipe thickness)	Nos.	12"	600#	5				
2.2.2	Weld Neck [B-16.5, ASTM A105, (Charpy), 125 AARH, RF] (End Thickness to match pipe thickness)	Nos.	8"	600#	4				
2.2.3	Weld Neck [B-16.5, ASTM A105, (Charpy), 125 AARH, RF] (End Thickness to match pipe thickness)	Nos.	4"	600#	16				
2.2.4	Weld Neck [B-16.5, ASTM A105, (Charpy), 125 AARH, RF] (End Thickness to match pipe thickness)	Nos.	2"	600#	12				
2.2.5	Socket Welded (B-16.5, ASTM A105, 125 AARH, RF)	Nos.	1½"	600#	2				
2.2.6	Socket Welded (B-16.5, ASTM A105, 125 AARH, RF)	Nos.	¾"	600#	10				
2.2.7	Weld Neck [B-16.5, ASTM A 350 GR LF2, CL-I., 125 AARH, RF]	Nos.	2"	600#	4				

IGGL	SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4							MECON LTD	
	Prices in INR								
4(I) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)
						In Figure	In Words	In Figure	
2.2.8	Socket Welded (B-16.5, ASTM A 350 GR LF2, CL-I, 125 AARH, RF)	Nos.	1"	600#	12				
2.2.9	Socket Welded (B-16.5, ASTM A 350 GR LF2, CL-I, 125 AARH, RF)	Nos.	¾"	600#	6				
2.2.10	Blind Flanges [B-16.5, ASTM 105 (Charpy), 125 AARH, RF]	Nos.	12"	600#	2				
2.2.11	Blind Flanges [B-16.5, ASTM 105 (Charpy), 125 AARH, RF]	Nos.	8"	600#	4				
2.2.12	Blind Flanges (B-16.5, ASTM A105, 125 AARH, RF)	Nos.	¾"	600#	6				
2.2.13	Blind Flanges (B-16.5, ASTM A350 Gr. LF2 CL-I, 125 AARH, RF)	Nos.	¾"	600#	6				
2.2.14	Spectacle Blind [B-16.48, ASTM A105 (Charpy), 125 AARH, FF]	Nos.	12"	600#	3				
2.2.15	Spectacle Blind [B-16.48, ASTM A105 (Charpy), 125 AARH, FF]	Nos.	4"	600#	8				
2.2.16	Spectacle Blind [B-16.48, ASTM A105 (Charpy), 125 AARH, FF]	Nos.	2"	600#	1				
2.2.17	Spectacle Blind [B-16.48, ASTM A350 Gr. LF2 CL-I, 125 AARH, FF]	Nos.	2"	600#	2				
2.2.18	Spectacle Blind [B-16.48, ASTM A350 Gr. LF2 CL-I, 125 AARH, FF]	Nos.	1"	600#	6				

4(I) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Prices in INR			Service Accounting Codes (SAC)	
						Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).				Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).
						In Figure	In Words	In Figure		
<b>2.3</b>	<b>ELBOW</b>									
2.3.1	90° Elbow [MSS- SP -75 GR.WPHY52, MSS-SP-75, 1.5D, BW]	Nos.	12"	S60	4					
2.3.2	90° Elbow [ASTM A234, Gr. WPB (Charpy), B-16.9, 1.5D, BW]	Nos.	8"	14.3	4					
2.3.3	90° Elbow [ASTM A234, Gr. WPB (Charpy), B-16.9, 1.5D, BW]	Nos.	4"	XS	42					
2.3.4	90° Elbow [ASTM A234, Gr. WPB (Charpy), B-16.9, 1.5D, BW]	Nos.	2"	S80	50					
2.3.5	90° Elbow [ASTM A105, B-16.11, SW]	Nos.	¾"	S160	20					
2.3.6	90° Elbow [ASTM A420 GR. WPL6, B-16.9, 1.5D, BW]	Nos.	4"	XS	13					
2.3.7	90° Elbow [ASTM A420 GR. WPL6, B-16.9, 1.5D, BW]	Nos.	2"	XS	2					
2.3.8	90° Elbow [ASTM A350 Gr. LF2, B-16.11, SW]	Nos.	1"	XS	6					
2.3.9	90° Elbow [ASTM A350 Gr. LF2, B-16.11, SW]	Nos.	¾"	S160	6					
2.3.10	45° Elbow [MSS- SP -75 GR.WPHY52, MSS-SP-75, 1.5D, BW]	Nos.	12"	S60	4					
<b>2.4</b>	<b>EQUAL TEE</b>									
2.4.1	MSS-SP-75 Gr. W PHY-52, BW	Nos.	12"	S60	2					
2.4.2	ASTM A234, Gr. WPB (Charpy), BW	Nos.	4"	XS	10					
2.4.3	ASTM A234, Gr. WPB (Charpy), BW	Nos.	2"	S80	2					
2.4.4	ASTM A105, SW	Nos.	¾"	S160	34					



IGGL	SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4							MECON LTD	
	Prices in INR								
4(i) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)
						In Figure	In Words	In Figure	
<b>2.5</b>	<b>UNEQUAL TEES</b>								
2.5.1	MSS-SP-75 Gr. W PHY-52, BW	Nos.	12"x12"x8"	S60 x 14.3	1				
2.5.2	ASTM A234, Gr. WPB (Charpy), BW	Nos.	12"x12"x4"	S60 xS60x XS	2				
2.5.3	ASTM A234, Gr. WPB (Charpy), BW	Nos.	4"x4"x2"	XSxXSxS80	16				
2.5.4	ASTM A420 Gr. WPL6, SW	Nos.	2"x2"x¾"	XSxXSx S160	7				
2.5.5	ASTM A105, SW	Nos.	1½"x1½"x¾"	S80xS80x S160	2				
2.5.6	ASTM A105, SW	Nos.	1"x1"x¾"	S80xS80x S160	2				
2.5.7	ASTM A350 GR. LF2, SW	Nos.	1"x1"x¾"	XS x XS x S160	6				
<b>2.6</b>	<b>WELDOLET</b>								
2.6.1	ASTM A694 GR.F-70(Charpy), BW	Nos.	12" x 4"	S60 x XS	4				
2.6.2	ASTM A694 GR.F-52(Charpy), BW	Nos.	12" x 4"	S60 x XS	4				
2.6.3	ASTM A694 GR.F-52(Charpy), BW	Nos.	12" x 2"	S60 x S80	4				
2.6.4	ASTM A105 (Charpy), BW	Nos.	8" x 2"	14.3 x S80	8				

IGGL	SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4							MECON LTD	
	Prices in INR								
4(I) Sl. No.	Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)
						In Figure	In Words	In Figure	
<b>2.7</b>	<b>SOCKOLET</b>								
2.7.1	ASTM A694 Gr. F52 (Charpy), SW	Nos.	12" x 1½"	3000#	2				
2.7.2	ASTM A694 Gr. F52 (Charpy), SW	Nos.	12" x ¾"	3000#	2				
2.7.3	ASTM A105 (Charpy) , SW	Nos.	8" x ¾"	6000#	4				
2.7.4	ASTM A105 (Charpy) , SW	Nos.	4"x¾"	6000#	12				
2.7.5	ASTM A350 GR. LF2, SW	Nos.	4"x1"	3000#	6				
2.7.6	ASTM A350 GR. LF2, SW	Nos.	4"x¾"	6000#	6				
<b>2.8</b>	<b>REDUCER</b>								
2.8.1	ASTM A234, Gr. WPB (Charpy)	Nos.	6" x 4"	XS x XS	8				
2.8.2	ASTM A234, Gr. WPB (Charpy)	Nos.	2" x 1½"	S80 x S160	2				
2.8.3	ASTM A234, Gr. WPB (Charpy)	Nos.	2" x 1"	S80 x S160	2				
2.8.4	ASTM A234, Gr. WPB (Charpy)	Nos.	2"x ¾"	S80 x S160	16				
<b>3.0</b>	<b>Supply of Valves</b>								
	Complete work of supply of valves including all taxes, duties, transportation and inspection charges but not limited to, the following items in accordance with relevant Specifications & relevant Data Sheets indicated in scope of work indicated in SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT.								
3.1	<b>Plug Valves</b>								
	<b>D1A</b>								
3.1.1	BW	Nos.	2"	600#	5				
3.1.2	RF	Nos.	2"	600#	1				
3.1.3	SW	Nos.	¾"	800#	2				
	<b>D4A</b>								
3.1.4	RF	Nos.	2"	600#	2				
3.1.5	SW	Nos.	1"	600#	6				
<b>3.2</b>	<b>Ball Valves</b>								
	<b>D1A</b>								
3.2.1	RF, FB	Nos.	2"	600#	5				

4(I) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Prices in INR			Service Accounting Codes (SAC)
						Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
						In Figure	In Words	In Figure	
3.2.2	BW, FB	Nos.	2"	600#	37				
3.2.3	BW, FB,LO	Nos.	2"	600#	2				
3.2.4	SW, FB	Nos.	¾"	800#	70				
	<b>D4A</b>								
3.2.5	SW, FB	Nos.	1"	600#	6				
3.2.6	SW, FB	Nos.	¾"	800#	6				
4.0	<b>ERECTION OF VALVES ( As per P &amp; ID )</b>								
4.1	Handling including lifting and transportation from COMPANY's warehouse to CONTRACTOR'S Stores and/or work site and installation of all types of valves, including assembly of valve accessories, (if any) by bolting, threading or welding, supply and insertion of gaskets, nuts & bolts, nipples, etc. at all elevations of pipe sleepers, supports or overhead on racks, equipments nozzle, skid & painting etc. supply of all consumables, manpower, equipment, etc. for completion of all works as per scope of work and as per drawings, specifications and instructions of Engineer-in-charge including servicing/ cleaning of valve wherever required.								
	<b>Welded Valves (Full Bore/ Reduced Bore)</b>								
	<b>Ball/ Plug/ Globe Valves</b>								
4.1.1		Nos.	12"	600#	1				
4.1.2		Nos.	4"	600#	20				
4.1.3		Nos.	2"	600#	20				
	<b>Flanged Valves (Full Bore/ Reduced Bore)</b>								
	<b>Ball/ Plug/ Globe Valves</b>								
4.1.4		Nos.	12"	600#	1				
4.1.5		Nos.	4"	600#	12				
4.1.6		Nos.	2"	600#	8				
	<b>Socket Welded Valve (Ball / Plug / Valves)</b>								
4.1.7		Nos.	1"	800#	4				
4.1.8		Nos.	¾"	800#	38				
	<b>Ball Valve (Welded End, AV/HOV/GOV)</b>								
4.1.9		Nos.	12"	600#	4				
5.0	<b>QOEC</b>								

4(l) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Prices in INR			Service Accounting Codes (SAC)
						Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
						In Figure	In Words	In Figure	
5.1	<b>D4A</b>	Nos.	4"	600#	2				
6.0	<b>SAFETY RELIEF VALVES</b>								
	Installation of safety relief valve of inlet size range (1" to 2") and outlet size range (2" to 3") on scrapper trap alongwith companion flanges with all accessories including but not limited to gaskets, nuts, bolts, fixtures, clamps etc. required and providing high vent for discharge. Installation shall be as per API RP 520; final coat of painting, set pressure testing & commissioning as per scope of work								
6.1	PSV (on Scrapper Trap)	Nos.	-	600#/150#	2				
7.0	<b>PIPE SUPPORTS &amp; OTHER STRUCTURES</b>								
7.1	Supply, fabrication and erection of all types of pipe supports like clamps, saddle, guide stops, cradles, turn buckles, anchors, T-posts; stockade/ trestle and pipe bridge for overhead piping; frames for canopy, approach ladders and platforms, crossover, cable tray supports, etc. including painting suitable for highly corrosive area as per specification, labour and supervision & complete work as per drawings, specifications and instruction of Engineer-in-charge. (Bolts, nuts, washers, U-clamps etc. for supporting shall be supplied by the Contractor within the rates quoted. These items will not be measured and will not be paid seperately). The work is to be completed in all respect as per scope of work and specification.	MT	-	-	4				
8.0	<b>RADIOGRAPHY</b>								
	Performance of radiographic inspection by gamma radiation as per scope of work and as per specifications in piping of all types and thickness including providing/hiring of all necessary equipments, supply of all consumables, and whatever else even though not expressly mentioned but required to perform the work as per specifications and instructions of Engineer-in-Charge (full circle re-radiography of the repaired joint and additional radiography necessitated due to poor performance of contractor's welder shall be carried out by the Contractor at his own cost and shall not be paid extra by Company). Radiographs shall be submitted to the Engineer-in-Charge for acceptance, whose decision shall be final and binding.								
8.1		Nos. of Joint	12"		30				
8.2		Nos. of Joint	8"		20				
8.3		Nos. of Joint	4"		100				
8.4		Nos. of Joint	2"		125				

4(l) Sl. No.	PIPING & MECHANICAL WORKS Description of Item	Unit	Size	Rating/ Thk./ Sch.	Quantity	Prices in INR			Service Accounting Codes (SAC)	
						Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
						In Figure	In Words	In Figure		
9.0	<b>ERECTION OF VESSELS, SKIDS &amp; EQUIPMENTS</b>									
	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 above ground/ 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, ancilliary, enabling works as required and completing in all respect as per drawings, specification and instruction of Engineer-in-charge. 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 & 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.									
	Approx. erection weight and Details of major equipments are as under (Refer P&ID included with Tender).									
	Details of major equipments are as under									
9.1	Scrapper Trap with Pig Handling Device, Chain Pulley Block, metering skid etc.	MT			15					
10.0	<b>LEAKS/ BURSTS (ATTRIBUTABLE TO OWNER) FOR TERMINAL PIPING</b>									
10.1	All works for leak/burst (occurring during hydrostatic testing) including necessary repair/replacement of defective pipe length, including cutting and removing out defective pipes, welding, NDT of welds, repair and re-testing of defective welds, painting of welded joints, clean-up, re hydro testing of the pipe segment including providing all necessary equipments, labour, materials, consumables and inputs other than Owner supplied materials and performing all works as per drawings, specifications enclosed with the Contract and directions of Engineer-in-Charge.	Inch Mtr.			12					
	Note : This rate shall be applicable for manufacturing defects in Company supplied materials only.									
11.0	<b>UNLOADING OF FREE ISSUE MATERIAL</b>									
	Complete work of unloading of Free Issue Materials (Valves, Scrapper Traps, Metering Skids, Flow Tees, Insulating Joint, flanges & fittings etc.) from Goods Carrier (i.e. Truck, Trailer, etc.) at IGGL's Designated Store. After unloading, free issue material shall be placed / stacked inside the store at all elevations of racks including supply of all associated consumables, manpower, equipment, etc. for completion of all works as per instructions of Engineer-in-charge.	MT			30					
<b>Note:</b>	(i) The bidder must indicate currency(ies) against each quoted item of the SOR.	Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).								
	(ii) The total amount shall also be given by the bidder in the quoted currency(ies).									
Place						Signature of Authorised Signatory				
Date						Name :				
Tender No.:						Designation :				
Offer No. & Date :						Seal :				

		<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>						
<b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> Bid Doc. No.: 05/51/23UU/IGGL/001-i-4		Prices in INR						
4(II)	CIVIL WORKS	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
Sl. No.	Description of Item			In Figure	In Words	In Figure		
<b>CIV-1</b>	<b>TOPOGRAPHICAL SURVEY</b>							
	To carry out detailed Topographic Survey covering specified plots/area of Despatch/Receiving Station, Tap-Off's and SV Stations and any other locations from approved agency and as directed by Engineer in Charge using survey instruments and giving complete details in the form of drawings (in the scale of 1:100) and reports in 4 copies on white paper sheets and CAD output on CD/DVD all complete as per specifications, drawings and direction of the Engineer-in-Charge.	M2	16000					
	Note :- 1. Tentative Number of Plots for Topographical Survey is 9 Nos. 2. Area of plot shall be surveyed up to 5m beyond plot boundary and up to approach road on front side of the plot. 3. Number of trees along with type and girth area of plot shall be given. 4. HFL of plot shall be reported. 5. To be read along with relevant survey TS.							
<b>CIV-2</b>	<b>GEOTECHNICAL INVESTIGATION IN PLOTS</b>							
	Carrying out complete Geotechnical Investigation for 10m depth or as specified by Engineer-In-Charge for plots of Receiving Terminal/SV Station /IP Station/Despatch Station or any other plot as per direction of Engineer-In-Charge as enlisted in the tender in scope of work including providing borehole location coordinates, manpower, tools, tackles, materials, survey equipments, drilling rigs, soil testing equipment, other equipments, other support facilities necessary for the survey and associated work and submitting Final Geotechnical Report (along with the soft copy) incorporating all field and laboratory data and recommending the type of foundation and the safe bearing pressure for the proposed sites, Drawings, Data etc. (One Lot) in an approved format drawings, approved QAP, implementation schedule and other provisions of the Tender Document and instructions of the Engineer-in-charge.							
	Conducting Geo-technical survey as above and providing recommendations for cast-in- situ skin friction end bearing 500 mm dia pile along with calculation of capacity of piles. Target compressive strength shall be considered as 30 T and bore log shall be extended to further depth if so needed.							
1	By Boring of minimum 150 mm dia boreholes upto a max. depth as specified or refusal strata (REFUSAL means when N> 100 for 30 cms of penetration) in all type of soil.	RM	60					
2	Field Investigations							
2.1	Conducting Standard Penetration Tests in Boreholes as specified as decided by EIC	EACH	40					
2.2	Collecting 100 mm dia undisturbed sample form boreholes as specified as decided by EIC.	EACH	6					
2.3	Collecting Disturbed samples from Bore Holes	EACH	34					

2.4	Ground Water level	EACH	6				
3	Conducting the following laboratory tests in NABL or equivalent accredited laboratory as per ISO/IEC 17025						
3.1	Atterberg's Limit (Liquid Limit & Plastic Limit)	EACH	40				
3.2	Natural Moisture Content	EACH	40				
3.3	Bulk and Dry Density	EACH	40				
3.4	Specific gravity and Void ratio	EACH	40				
3.5	Grain Size Analysis and IS Classification	EACH	40				
3.6	Direct Shear Test	EACH	6				
3.7	Tri Axial Shear Test	EACH	6				
4	<b>PLATE LOAD TEST</b>						
	Cyclic Plate Load Test at a depth of 1.5m in accordance with IS:1888 & IS:5249 including all equipment & accessories, digging of test pit and filling the pit with proper compaction after completion of the test.	EACH	5				
CIV-3	<b>SITE CLEARANCE</b>						
CIV-3a	<b>DEMOLITION OF R.C.C./BRICKS/STONE MASONARY</b>						
	Site clearance by demolition of R.C.C./PCC/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.	CUM	25				
	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 after deductions for air voids as demolished.						
CIV-3b	<b>CLEANING VEGETATION</b>						
	Cleaning bushes including uprooting of rank vegetation, green bush wood, trees and saplings of girth upto 30cms (measured at a height of 1m above ground), stacking the serviceable materials and disposal of the same including rubbish etc. upto any lead and all lift as per specification and direction of the Engineer-in-charge. (payment will be made for actual site clearance area only).	SQM	12000				
CIV-3c	<b>TREE CUTTING</b>						

	Tree cutting (only of girth more than 30 cm above 1m above ground) along with removal of roots and stumps and handing over the same to Owner / Owner's Representative including paying royalties, disposal, taking approval from competent authorities etc. all complete, as per technical specifications and direction of Engineer-in-charge.	<b>Nos.</b>	<b>25</b>				
	Note:						
	1.Rate includes cost of all labour, tools, tackles, hire charges, royalties, levies,loading/unloading, transportation, electric power, illumination and cost of handingover to owner/or his representative etc. complete in all respects as per scope of workand direction of Engineer-in-charge.						
<b>CIV-4</b>	<b>ANTI TERMITE TREATMENT</b>						
<b>CIV-4a</b>	Material and labour for treating the top surface of filled earth using emulsion of Chlorpyrifos/Lindane E.C. 20% with 1% concentration at the rate of 05 litres of emulsion per square meter of surface .	<b>SQM</b>	<b>1100</b>				
<b>CIV-4b</b>	All as per Item no. CIV-4a) above but treating the soil under plinth protection using chemical emulsion at the rate of 05 litres of emulsion per Sq M of the surface area.	<b>SQM</b>	<b>500</b>				
<b>CIV-4c</b>	All as per Item no. CIV-4a) above but treating the soil along with external perimeter of buildings using chemical emulsion at the rate of 2.25 litres of emulsion per RM of the perimetre wall.	<b>RM</b>	<b>450</b>				
<b>CIV-4d</b>	All as per Item no. CIV-4a) above but treating the backfill in contact with foundation using chemical emulsion at the rate of 7.50 litres of emulsion per Sq M of vertical surface ( area of surface in contact with backfill to be measured).	<b>SQM</b>	<b>100</b>				
	NOTE: For Items (4a) To (4d) Contractor shall give at least 10 years performance guarantee for anti termite treatment works						
<b>CIV-5</b>	<b>EARTH WORK IN EXCAVATION AND BACKFILLING</b>						
	Earthwork in excavation for foundations in ordinary soils including soft rock / disintegrated rock in both dry and wet conditions including pumping and bailing out surface and subsoil water, shoring, strutting, slush removal including backfilling in all positions in layers of 300mm at all heights and depths as per drawings and specifications wherever required, in Foundation pits and other places with excavated suitable surplus earth including reclaiming from spoil heaps kept within the plot including dressing and levelling, watering and mechanical compaction etc.,transporting surplus unserviceable soil upto any lead and spreading in layers and as per specifications and direction of Engineer in charge. The Measurement for payment shall be for the theoretical volume only and it shall be the volume of the block of the excavation having maximum bottom dimension of the levelling course/PCC as per drawing and to actual depth.						
<b>a)</b>	For depth upto 2.0 m.	<b>CUM</b>	<b>8000</b>				
<b>b)</b>	For depth beyond 2.0 m	<b>CUM</b>	<b>50</b>				
	Note:						
	1. The Contractor shall take into account in his rate, the provision for excess excavation required for necessary working space, cutting in slopes etc., which may be required for excavation and other allied works and refilling the side slopes and working space in layers as per requirement.						
<b>CIV-6</b>	<b>EARTH WORK IN EXCAVATION/ SITE GRADING IN HARD ROCK</b>						

	Earth work in excavation in hard rock requiring blasting for all type and size of foundations in any plan dimension up to required depth including disposal of excavated material up to any lead in all conditions, and disposal of surplus and unserviceable material. Surface to be leveled and neatly dressed complete in all respect as per scope of work, detailed construction drawings and directions of the Engineer-in-charge. The Measurement for payment shall be for the theoretical volume only and it shall be the volume of the block of the excavation having maximum bottom dimension of the levelling course/PCC as per drawing and to actual depth.	CUM	250				
	Note:-						
	1. The Contractor shall take into account in his rate, the provision for excess excavation required for necessary working space, cutting in slopes etc., which may be required for excavation and other allied works as per requirement.						
<b>CIV-7</b>	<b>EARTH WORK IN FILLING</b>						
	Controlled earth filling with good quality imported earth from approved source under floors and other places with special compaction to achieve dry density of 95% standard proctor density as per instruction of the Engineer at all heights/depths upto any lead transporting, depositing, compacting and dressing, trimming complete as desired in layers not exceeding 30cm including watering, consolidating by mechanical means as per specifications and instructions of the Engineer.	CUM	35000				
<b>CIV-8</b>	<b>EARTH WORK IN BOX CUTTING FOR ROADS</b>						
	Earth work in Box cutting for roads in embankment/existing ground, in all kinds of soils for formation of subgrade to required camber, gradient including rolling, compaction with 8 to 10 t power roller to get 95% proctor density and dressing up the surface, breaking clods, removal of slush and water, transporting and depositing or stacking unserviceable earth elsewhere upto any lead as directed by Engineer in charge for all heights etc., complete as per specification.	CUM	280				
<b>CIV-9</b>	<b>SAND FILLING</b>						
	Supplying and filling approved quality coarse sand/M sand (Zone II or Zone III) in foundation or under floor, trenches, pits and other places, at all locations in layers of 150 mm thickness including watering and ramming, all lead, lift and depth complete as per drawing and specification and direction of the Engineer.	CUM	320				
	Note:						
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, cost of sand, right of way, cess, and backfilling using sand in all conditions, etc.						
<b>CIV-10</b>	<b>PLAIN CEMENT CONCRETE</b>						
<b>CIV-10a</b>	Supplying and laying plain cement concrete of grade 1:2:4 (M 15) with stone aggregate 20mm down grade (including shuttering if required) in foundations, floors, roof screed, aprons, pits, drains and other mass concrete works, steps, coping of wall, sill etc., at all depths and heights/levels as per drawings, specifications and directions of the Engineer-in-charge.	CUM	300				
	Note:						
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials, OPC/PPC cement, shuttering in all conditions etc. with all bye works and sundry works.						
	2. In case of non availability of OPC Cement, PPC Cement can be used in place of OPC after approval from Engineer-in-charge. Suitable rate for rebate using PPC shall be submitted by the Contractor.						

<b>CIV-10b</b>	Supplying and laying plain cement concrete of grade 1:3:6 (M 10) with stone aggregate 40mm down grade (including shuttering if required) in all levelling courses under foundations, mass concrete works, road works, chambers, trenches, floors and any other locations at all depths complete in all respects as per drawings, specifications and directions of the Engineer-in-charge.	<b>CUM</b>	<b>530</b>			
	Note:					
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials, OPC/PPC cement, shuttering in all conditions etc. with all bye works and sundry works.					
	2. In case of non availability of OPC Cement, PPC Cement can be used in place of OPC after approval from Engineer-in-charge. Suitable rate for rebate using PPC shall be submitted by the Contractor.					
<b>CIV-11</b>	<b>REINFORCED CEMENT CONCRETE</b>					
	Providing and Laying in position Machine batched and machine mixed Design mix/ Ready mixed for Reinforced Cement Concrete work of grade M-25 using 20mm down size graded aggregate at all depths and heights using cement content as per approved design mix manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of RMC as applicable, including cost of centering, shuttering and admixtures in recommended proportions as per IS: 9103 to accelerate/retard setting of concrete (improve workability without impairing strength and durability) but excluding cost of reinforcement as per direction of Engineer-in-charge. Mechanical mixers with Hopper along with Weigh Batcher shall also be permitted for use at site with the approval of Engineer-Incharge to produce Design Mix Concrete of specified grade.	<b>CUM</b>	<b>3000</b>			
	Note:					
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as, minimum 43 grade OPC cement/PPC cement including sulphate resistant cement if required, coarse and fine aggregates, admixtures, other minor construction materials, testing of concrete, curing etc. with all bye works complete.					
	2. The reinforcement shall be paid separately vide respective item.					
	3. In case of non availability of OPC Cement, PPC Cement can be used in place of OPC after approval from Engineer-in-charge. Suitable rate analysis for rebate along with mix design using PPC shall be submitted by the Contractor.					
<b>CIV-12</b>	<b>REINFORCEMENT STEEL</b>					
	Supplying, Fabricating and Fixing in position TMT Grade Fe 500D reinforcement conforming to IS1786 at all levels and positions including the cost of transport, straightening, cutting, bending, cranking, welding, provision of necessary chairs and spacers, preparation of bar bending schedule and getting the same approved by EIC etc., complete as per drawings and specifications and including cost of binding wire, labour, testing etc., all complete in all respects as per detailed construction drawings, technical specifications and direction of Engineer-in-charge. The chairs and spacer bars provided will not be measured for payment.	<b>MT</b>	<b>300</b>			
	Note:					
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as reinforcement steel, binding wire etc. with all bye works and sundry works complete.					
	2. Chairs, Unauthorised Laps, Spacers, Binding wire, Wastage etc. shall be to contractor's account.					
<b>CIV-13</b>	<b>DAMP PROOF COURSE</b>					

	Providing 40 mm thick Damp proof course over plinth with cement concrete grade 1:1.5:3 using aggregate of 10 mm and down graded and mixing approved water proof admixture with cement as per manufacturer's specification including necessary formwork/ shuttering, one coat of hot bitumen of grade VG-10 over the top surface of Damp proof coarse and all necessary byeworks complete as per specification, drawing and as directed by the Engineer.	<b>SQM</b>	<b>150</b>				
<b>CIV-14</b>	<b>BRICK WORK</b>						
	Providing and laying BRICK WORK straight or curved on plan to any radius using best quality bricks with frog/indent, conforming to sub-class A as per IS:1077 having crushing strength of not less than 50 kg/cm <sup>2</sup> in cement mortar 1 :6 (1 Cement : 6 Coarse Sand) in all types of foundation and superstructure at all depths/heights including projections, pillars, parapets, ornamentals of any shape, cornices, all complete including cut work, curing, scaffolding, including filling of joints with Cement Mortar 1:6 and racking of joints, etc. as per specifications, drawings and directions of the Engineer.	<b>CUM</b>	<b>1000</b>				
	Note:						
	Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement (OPC/PPC), bricks, finishes, bitumen, other minor construction materials, shuttering, staging, masonry work, painting with bitumen on faces in contact with soil etc. as per requirement with all bye-works and sundry works complete as per drawings.						
<b>CIV-15</b>	<b>AUTOCLAVED AERATED CEMENT BLOCKS</b>						
	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mmmm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for separately).	<b>CUM</b>	<b>630</b>				
<b>CIV-16</b>	<b>INSERTS</b>						
	Supplying, Fabricating, Fixing at all levels and positions Steel embedments/ Inserts like Plates, Angle, Channels, Anchor boxes, MS pipe Sleeves including threading etc., including two coats of approved quality Synthetic enamel paint over a primer coat on the exposed Surfaces wherever necessary, complete as per Drawings, Specifications and directions of the Engineer-in-charge. (Jigs, Templates and Fixtures will not be paid separately).	<b>KG</b>	<b>4200</b>				
<b>CIV-17</b>	<b>PLINTH PROTECTION</b>						
	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	<b>SQM</b>	<b>500</b>				
<b>CIV-18</b>	<b>G.I.PIPES</b>						
	Providing and fixing of following size of G.I. pipes (medium duty) as per IS 1239 complete with G.I. fittings and clamps including cutting by hack saw, bending by hydraulic machine, trenching and refilling etc. including all labour and material complete as per approved drawing and direction of EIC.						
<b>A)</b>	100 mm nominal bore	<b>RM</b>	<b>50</b>				
<b>B)</b>	150 mm nominal bore	<b>RM</b>	<b>50</b>				

<b>CIV-19</b>	<b>PRE CAST COVERS</b>						
	Providing, hoisting and fixing up precast reinforced cement concrete of M-25 grade (20mm nominal size) in trenches, pits, tanks and the like including the cost of required centering, shuttering (with smooth surface) complete but excluding cost of reinforcement.	<b>CUM</b>	<b>10</b>				
	Note :- 1. The reinforcement shall be paid separately vide respective item.						
<b>CIV-20</b>	<b>KHURRAS</b>						
	Making Khurras 45cm x 45cm with average thickness of 50mm in PCC (1:2:4) using 20mm and down stone chips over PVC sheet 1m x 1m x 400micron, finished with 12mm cement plaster (1:3) and a coat of neat cement rounding the edges and making, finishing the outlet.	<b>NOS.</b>	<b>20</b>				
<b>CIV-20A</b>	<b>GOLA</b>						
	Providing gola 75 x75mm in cement concrete 1:2:4 ( 1 cement : 2 coarse sand : 4 stone aggregate 10mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design : In 75x75mm deep chase	<b>RM</b>	<b>700</b>				
<b>CIV-21</b>	<b>CONCRETE PIPES (NP3 TYPE)</b>						
	Providing and laying non-pressure NP3 class (medium duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including trenching and filling complete as per direction of Engineer in charge.						
<b>a)</b>	150 mm dia	<b>RM</b>	<b>60</b>				
<b>b)</b>	300 mm dia	<b>RM</b>	<b>60</b>				
<b>CIV-22</b>	<b>CONCERTINA COIL</b>						
<b>CIV-22a</b>	Providing and fixing Concertina Coil fencing with Punched tape concertina coil 600mm dia 10 metre openable length (total length 90 m), having 50 nos. rounds per 6 m length, upto 3 m height of wall with existing angle iron Y- shaped placed 3 m apart and with 9 horizontal RBT reinforced barbed wire, stud tied with GI staples and GI clips to retain horizontal, including necessary bolts or GI barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(RBT)/spring core(2.5mm thick) wire of high tensile strength of 165 kg/sq.mm with tape(0.52mm thick) and weight 43.478gm/metre(cost of MS angle, CC blocks shall be paid separately)	<b>RM</b>	<b>900</b>				
<b>CIV-22b</b>	Supplying, Fabricating, Fixing at all levels and positions Steel Y angle embedments/ Inserts in boundary wall column with CC blocks including two coats of approved quality Synthetic enamel paint over a primer coat on the exposed Surfaces wherever necessary, complete as per Drawings, Specifications and directions of the Engineer-in-charge.	<b>Nos</b>	<b>300</b>				
	Note- Read this item along with tender drawing MEC/05/11/STD/022.						
<b>CIV-23</b>	<b>RAIN WATER HARVESTING PIT</b>						
	Providing,constructing and finishing of rain water harvesting pit including boring up to ground water table, provision of filter media and construction of pit complete as per scope of work, detailed construction drawings and directions of the Engineer-in-charge.	<b>Nos.</b>	<b>5</b>				

	[Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials, such as minimum 43 grade OPC cement, bricks of class designation M-7.5 of IS: 1077 in CM 1:4 (1 cement :4 sand),bitumen,other minor construction materials, shuttering, staging,providing and placing R/F steel, inserts etc. with all by works and sundry works complete.						
<b>CIV-24</b>	<b>BOULDER SOLING</b>						
	Providing and laying stone boulder soling with stone boulders of different sizes including packing filling interstices with smaller size stones dry and wet consolidation with moorum as coarse aggregate in foundation, trenches,pavements including ramming, consolidating with mechanical means and tamping etc. completed as directed at the site (Compacted thickness shall be measured for payment)						
a)	125mm thick of size 60-90mm	<b>CUM</b>	<b>150</b>				
b)	150mm thick of size 90-120mm	<b>CUM</b>	<b>50</b>				
<b>CIV-25</b>	<b>STONE AGGREGATE</b>						
	Supplying, stacking and spreading of stone aggregate of size 53 mm to 22.4 mm at desired locations inside the plot over well compacted earth complete as per construction drawing and as directed by Engineer-in-charge.	<b>CUM</b>	<b>650</b>				
<b>CIV-26</b>	<b>PLASTERING IN DRAINS</b>						
	Providing and applying 15mm thick cement plaster 1 : 4 (1 cement : 4 medium coarse sand) smooth finish (1 neat coat of cement) with waterproofing compound at all depths & heights on faces of walls, pillars, projection, bands, etc., including raking out joints if any left out, necessary dabbing, curing, scaffolding complete at all heights as per specification and drawings.	<b>SQM</b>	<b>500</b>				
	Note: Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement (OPC), coarse sand and other minor construction materials as per requirement with all bye-works and sundry works complete as per drawings.						
<b>CIV-27</b>	<b>JOINT FILLER</b>						
a)	Providing and filling expansion joints in boundary wall with 25mm thick bitumen impregnated fibre board conforming to IS 1838 including cost of primer all complete.	<b>RM</b>	<b>100</b>				
b)	Providing and filling 12mm deep groove on top and on both sides of vertical surface with bitumenous sealant all complete.	<b>RM</b>	<b>200</b>				
	Note- Read this item along with tender drawing no MEC/05/11/STD/022.						
<b>CIV-28</b>	<b>ROAD WORKS</b>						
<b>CIV-28a</b>	Providing, laying, spreading, and compacting graded stone aggregate Granular Sub Base over subgrade, aggregate gradation shall be as per Table No 400 - 1 of Grading 1 of MORTH specifications (See Note 1) including transportation of material to site, laying in uniform layers with well prepared surface and compacting with vibratory roller to achieve the desired density as per specifications complete in all respect. Same shall be laid in layers of 200 mm thickness each. Rate to include preparation of existing subgrade surface to the proper line and level and compacted as directed by Engineer in charge.	<b>CUM</b>	<b>300</b>				
	Note 1:						

	<b>IS Sieve Designation</b> 75.0 mm 53.0 mm 26.5 mm 9.50 mm 4.75 mm 2.36 mm 0.425 mm 0.075 mm	<b>% Passing</b> 100 80-100 55-90 35-65 25-55 20-40 10-25 3-10					
<b>CIV-28b</b>	Providing, laying, spreading, and compacting graded stone aggregate to wet mix macadam specifications as per Table no 400 - 11 of MORTH specifications (See Note 1) including the premixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tipper to site, laying in uniform layers with paver/grader/manual in sub- base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density as per specifications complete in all respect. Same shall be laid in a layer of 100mm thickness over GSB Layer.		<b>CUM</b>	<b>150</b>			
	<b>Note 1:</b> <b>IS Sieve Designation</b> 53.0 mm 45.0 mm 26.5 mm 22.40 mm 11.20 mm 4.75 mm 2.36 mm 0.06 mm 0.075 mm						
	<b>% Passing</b> 100 95-100 --- 60-80 40-60 25-40 15-30 8-22 0-8						
<b>CIV-28c</b>	<b>REINFORCED CEMENT CONCRETE IN PAVING/GRADE SLAB WITH VACUUM DEWATERED CONCRETING USING TREMIX OR EQUIVALENT METHOD</b>						
	Providing and Laying in position machine batched and machine mixed Design mix / Ready mixed M-30 grade concrete for slab/paving work at all depths and heights using 20 mm down size graded aggregate in panels of 4.0m x 4.0 m or as per approved drawing by using vacuum dewatering method (tremix flooring or equivalent) using cement content as per approved design mix manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads having continuous agitated mixer and providing necessary formwork with MS Channel sections, curing, edge treatment, making necessary slope, vibrating with needle and surface vibrators and finishing with broom finish including cost of centering & shuttering, admixtures in recommended proportions as per IS: 9103 to accelerate/retard setting of concrete (improve workability without impairing strength and durability) but excluding cost of reinforcement all complete in all respects and as per direction of Engineer-in-Charge. Cost of providing and laying 12 mm wide 25 mm deep polysulphide sealant in contraction joint in RCC floor including groove cutting is included within this SOR Item. Mechanical mixers with Hopper along with Weigh Batcher shall also be permitted for use at site with the approval Of Engineer-in-Charge to produce Design Mix Concrete.		<b>CUM</b>	<b>300</b>			
	<b>Note:</b> 1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade OPC cement, coarse and fine aggregates, admixtures, other minor construction materials, testing of concrete, curing etc. with all bye works and sundry works complete. 2. Reinforcement & Expansion Joints shall be paid separately vide respective item.						
<b>CIV-29</b>	<b>CONCRETE PAVEMENT</b>						



	Providing and laying reinforced cement concrete pavement 150 mm thick in M-25 grade with 20 mm and down grade crushed stone aggregate in pavement, including earthwork in excavation, preparation of base (i.e. compacted subgrade, 200 thk sand and 100 thk PCC M 10 grade), leaving pockets if necessary, making recess, projections, fixing inserts conduit pipes (GI, PVC, HDPE, etc.) laying in alternate panels, filling the gaps between the panels with bitumen sand mix filler material etc., making slopes, finishing edges, leaving bars for pedestals & sleepers including providing sand fill isolation, shuttering, providing and fixing reinforcing steel, curing, chipping and modification works etc. as specified in any shape, thickness, position and finishing the top surface smooth as per requirement etc. all complete as per drawings, specifications and directions of the Engineer-in-charge.						
<b>CIV-29A</b>	150mm thick in Pavements of Process Area (Type - I)	<b>SQM</b>	<b>600</b>				
	Note :-						
	1.Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials, providing and fixing reinforcement steel, shuttering, earthwork in excavation and backfilling using serviceable earth in all conditions, preparation of base, etc. with all bye works and sundry works. Cost of works towards pipe supports & sleepers being raised from pavement is covered under respective RCC items.						
<b>CIV-30</b>	<b>EXPANSION JOINTS</b>						
<b>CIV-30A</b>	Providing 25mm wide 200 deep expansion joint with 25 thick PUF filler board, top filled with 15 mm x 25 mm polysulphide sealant, 32mm dia medium grade PVC sleeve with end cap at one end with 20mm dia plain MS bar @ 500mm c/c etc all complete as per drawing, specification and instruction of Engineer.	<b>RM</b>	<b>80</b>				
<b>CIV-30B</b>	Providing and laying 40 mm thick 200 mm deep expansion/seperation joint along the periphery of pedestals, flooring with approved bituminous impregnated fibre board conforming to IS 1838 including sealing the top 20mm depth with bituminous mastic sealant at all heights and locations with all bye-works complete as per drawing, standard practice as directed by Engineer.	<b>RM</b>	<b>400</b>				
<b>CIV-31</b>	<b>PAVER BLOCK FLOORING</b>						
	Supplying and placing in position as per approved pattern of Cement Concrete Inter locking/grass jointed paver block 60 mm thick of approved shape, rough finish, M-30 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 scope of work, detailed construction drawings, technical specifications and directions of the Engineer-in-charge.	<b>SQM</b>	<b>800</b>				
	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.PCC below paver shall be paid separately vide respective item.						
<b>CIV-32</b>	<b>KERB STONE FIXING</b>						
	Providing and fixing precast concrete Kerb stones (125 wide X 300 deep approx.) 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 M-10 levelling course, complete in all respects as per scope of work, detailed construction drawings, technical specifications and directions of the Engineer-In-Charge.	<b>RM</b>	<b>800</b>				



	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.						
<b>CIV-33</b>	<b>CPVC PIPES - EXPOSED WORK</b>						
	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes of approved make having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge - Exposed Work.						
A)	32 mm nominal bore	RM	100				
B)	25 mm nominal bore	RM	10				
C)	20 mm nominal bore	RM	10				
D)	15 mm nominal bore	RM	10				
<b>CIV-34</b>	<b>CPVC PIPES - CONCEALED WORK</b>						
	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes of approved make having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. - Concealed Work including cutting chases and making good the walls etc.						
A)	25 mm nominal bore	RM	15				
B)	20 mm nominal bore	RM	25				
C)	15 mm nominal bore	RM	15				
<b>CIV-35</b>	<b>NON RETURN VALVE</b>						
	Supplying, fitting and fixing superior quality Gun metal non return valve of approved quality						
A)	32mm dia	NOS.	10				
B)	25mm dia	NOS.	5				
<b>CIV-36</b>	<b>SINTEX OR EQUIVALENT HDPE WATER TANK</b>						



	Providing and fixing 1000 litres capacity SINTEX or equivalent approved HDPE water tank ISI : 12701 marked with PVC fittings for inlet, outlet, over flow, scour float valve, air lock release pipe, connections of required size and diameter including connections and fixing the tank on roof at all heights with all bye-works complete as per manufacturer's specification and direction of the Engineer. (Support of tank on Brick/RCC/PCC will be paid under relevant items)	EACH	5				
<b>CIV-37</b>	<b>SAND CAST IRON/ CAST SPUN SOIL,WASTE &amp; VENT PIPE AND FITTINGS</b>						
	Providing, laying and jointing in position sand cast iron/ cast iron spun soil, waste and vent pipe conforming to IS 1729 including all fittings like offsets, bends, tees etc. including lead caulked joints 45 mm deep and fixing them on floors or vertically against walls by M.S. brackets or clamps so as to keep the pipes away from the wall. Rate to include scaffolding, water testing after laying the pipes and painting with two coats of paint of any colour such as chocolate grey, buff etc. over a coat of primer of approved quality all complete.						
A)	100 MM DIA	RM	60				
B)	75 MM DIA	RM	40				
<b>CIV-38</b>	<b>GULLY TRAP</b>						
	Providing and fixing square mouth S.W. 100x100 mm size P type gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.5 kg and frame to be not less than 2.70 kg as per standard design with common burnt clay bricks of class designation 5.0	NOS.	5				
<b>CIV-39</b>	<b>BRICK MASONRY MANHOLES</b>						
	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design including excavation,backfilling and disposal of surplus earth complete as per specifications, drawings and direction of Engineer-in-Charge.						
	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg with common burnt clay bricks of class designation 5.0	EACH	10				
	Extra for depth for manholes	RM	20				
<b>CIV-40</b>	<b>GLAZED STONEWARE PIPES</b>						
	Providing, laying and jointing glazed stone ware pipe class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 ( 1 Cement : 1 Fine Sand) including embedding in PCC M-10, making haunches, necessary excavation, backfilling and testing of joints etc complete as per specification and upto 1.5m depth. (PCC shall be paid separately).						



	100 mm dia	RM	25				
	150 mm dia	RM	100				
<b>CIV-41</b>	<b>FLOOR TRAP</b>						
<b>CIV-41a</b>	Providing and fixing PVC floor trap of self cleansing design conforming to IS specs with 100mm inlet, 100mm outlet and 150mm CP hinged heavy brass grating of 6mm thick with rim. Rate shall include making all necessary leak proof connections etc.	NOS.	10				
<b>CIV-41b</b>	Providing and fixing PVC floor trap of self cleansing design conforming to IS specs with 100mm inlet, 75mm outlet and 150mm CP hinged heavy brass grating of 6mm thick with rim. Rate shall include making all necessary leak proof connections etc.	NOS.	5				
<b>CIV-42</b>	<b>SEPTIC TANK</b>						
	Providing and construction of septic tank in brick masonry with common burnt clay bricks of class designation 5.0 and base and top slab in RCC M25 complete in all respect as per scope of work, detailed construction drawings , technical specifications and directions of the Engineer-in-charge.						
<b>CIV-42a</b>	TYPE-I for 20 Users	NOS.	5				
	Note: Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement including CI vent, CI manhole cover, SW fittings, PVC coated rungs, brick, inserts, bolts covers, aggregates / sand fill conduits finishes in excavation and backfilling using strutting, bailing and pumping out water, masonry work, plastering, plumbing, sanitation, etc. with al bye works and sundry works. Scope of construction is from inlet chamber to outlet chamber. Over all depth of chamber may vary as per site condition.						
<b>CIV-43</b>	<b>SOAK PIT</b>						
	Making soak pit 2.5 m outside diameter and effective depth of 2.5m with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design with common burnt clay bricks of class designation 7.5.	NOS.	5				
<b>CIV-44</b>	<b>PILING UNDER FOUNDATION</b>						
<b>a)</b>	Providing and fixing in position "Bored cast in situ RCC piles skin friction/end bearing type upto 500 mm diameter and 30 T capacity in M 25 Concrete " excluding the cost of reinforcement and getting the designs of same approved by IGGL/ MECON including driving in ground at specified locations by using standard tools for constructing a rigid support base for supporting the pipe line, boundary wall, buildings etc including all bye works, complete as per drawings, specification and directions of the Engineer-in-charge.	RM	1100				
	Notes-1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials, shuttering, providing and fixing reinforcement steel testing etc. with all bye works and sundry works and consumables. 2. Reinforcement will be paid seperately in respective SOR item.						
<b>b)</b>	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge.						
	Single pile upto 30 tonne capacity						



	Initial test	Nos.	1				
	Routine test	Nos.	2				
c)	Lateral load testing of piles in accordance with IS 2911 (Part IV) including cost of tolls and tackles required for testing etc. complete as per specification & the direction of Engineer in-charge.						
	Single pile upto 2.0 tonne capacity						
	Initial test	Nos.	1				
<b>CIV-45</b>	<b>BANK &amp; BED PROTECTION</b>						
	Providing, laying and constructing gabions and mattresses for erosion control and scour bed protection works with mattress of size 4m (max.) x 1m (max.) x 0.25 m (LxBxH) and partitions at 1m each filled with boulders of size 90-150 mm in compacted layers. Gabions and Mattresses shall be mechanically woven, double twisted, min diameter of 2.7mm/3.7mm (ID/OD) galvanised hexagonal steel wire with mesh size not exceeding 60 mm x 80 mm and zinc coating as per manufacturer specification. All adjacent mattresses shall be laced together with 4 mm galvanised steel wire. The sides of end panels shall be protected from riprap type structure (soling) with 225mm or larger size boulders. The above work shall be completed in all respect as per scope of work, detailed construction drawings and directions of the Engineer-In-Charge.	SQM	3850				
	1.Rate to include cost of all labour, tools, tackles,equipment, hire charges, supply of all materials, earth work in backfilling, etc. with all bye works and sundry works.						
	2.To be read in conjunction with Tender Drawing No. MEC/05/11/STD/015 & MEC/05/11/STD/016.						
<b>CIV-46</b>	<b>SAND BAGS</b>						
	Supplying, providing and placing sand bags filled with cement and sand mixture in ratio 1:10 ( 1 Cement : 10 Sand) in HDPE bags for retaining earth work by using standard tools and practices including sewing the bags, watering, etc. complete as per drawings, specification and directions of the Engineer-in-charge. Rate to include cost of all labour, tools, tackles, supply of all materials,clearing, earth work, etc. with all bye works and sundry works and consumables.	Nos.	7200				
<b>Note:</b>	(i) The bidder must indicate currency(ies) against each quoted item of the SOR. (ii) The total amount shall also be given by the bidder in the quoted currency(ies).	Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).					
Place :							
Date :							
Tender No.:							
Offer No. & Date :							



 IGGL		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4					 MECON LTD	
					Price in INR			
4(III)	Structural Works	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)	
SI.No.	Description of Item			In Figure	In Words	In Figure		
ST-1	<b>Supply, fabrication &amp; erection of Steel structure</b> Supply, fabrication and erection of monorail beam, pipe supports, platforms, crossover structure, or any other structures required for works, etc. including surface preparation, painting as per specification, including loading, transportation and unloading delivery at erection site of all fabricated structures, storage and handling at site, site assembly and finally erection of structures at appropriate location, alignment and welding of all structures true to line, level, plumb and dimension. The work shall be completed in all respect as per drawings, technical specification and direction of the Engineer-in-Charge. (The cost & weight of MS bolts and nuts (permanent and service), washers, electrodes, putty, gases, shims, packs, cost of straightening of raw materials, Built up section at any shape, cutting of flats from plates and providing splices, paints, tools, plants, testing of materials, etc and all other consumables as required for the work shall be deemed to be included in the quoted rates.)	KG	18800					
ST-2	<b>Providing and fixing of chain link fencing</b> Supply, fabrication and erection of structures such as angle iron post , Channel post, Strainer and strut,etc.with necessary holes for fixing the chain link fencing,site assembly and finally erection of structures at appropriate location including surface preparation with painting as per specification, including 2.4m high G.I. Chain link fabric fencing mesh size 50x50x3.15 mm dia, with 0.6 m heigh barbed wire (type-A) as per IS:278-1978 shall be made from two strands of galvanized steel wire of nominal dia 2.5 mm twisted together fixed on angle iron posts with GI staples, turn buckles,all necessary fitting etc, including strengthening with 4 mm dia wire Nuts bolts and washer complete in all respects.All work as per Specification and drawings and as direction of the Engineer-In-Charge. (excluding foundation, Refer Tender drawing)	RM	85					
ST-3	<b>Providing and fixing of chain link fencing gates</b> Supply, fabrication and erection of structures such as angle iron post , Channel post,Strainer and strut,etc.with necessary holes for fixing the chain link fencing,site assembly and finally erection of structures at appropriate location including surface preparation with painting as per specification,including 2.4m high G.I. Chain link fabric fencing mesh size 50x50x3.15 mm dia, with 0.6 m heigh barbed wire (type-A) as per IS:278-1978 shall be made from two strands of galvanized steel wire of nominal dia 2.5 mm twisted together fixed on angle iron posts with GI staples, turn buckles,all necessary fitting etc, including strengthening with 4 mm dia wire Nuts bolts and washer complete in all respects.All work as per Specification and drawings and as direction of the Engineer-In-Charge. (excluding foundation, Refer Tender drawing)							
a)	<b>2.0 M Wide gate</b>	Nos.	5					
ST-4	<b>Supply, fabrication &amp; erection of MS Gate</b> Supply, fabrication and fixing in position steel entrance gate (as per the design shown in the tender drawing) supply of raw materials, transportation and delivery at site, unloading, storage and handling at site, site assembly and finally erection at appropriate locations. gates shall be fabricated out of channel and Sq Bar with all fixtures like MS Pivot, M.S sheet boxing ,locking arrangement, MS tower bolts, gate stopper, hold fast, MS wheel with ball bearing , MS tee bend to shape and embedded in the road surface for gate opening track , etc. including painting as per specification. The work is to be completed in all respect as per drawings and technical specification and direction of the Engineer-in-Charge							



 IGGL		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4					 MECON LTD		
4(III)		Structural Works	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)
SI.No.	Description of Item	Nos.		In Figure	In Words	Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
a)	5.5 M Wide gate in two panels with wicket gate 1.2m wide	Nos.	1						
b)	4.0 M Wide gate in two panels	Nos.	4						
c)	1.2 M Wide emergency gate	Nos.	5						



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					Price in INR			
4(III)	Structural Works	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
SI.No.	Description of Item			In Figure	In Words	In Figure		
ST-5	<b>Providing and fixing of chequered plate covers</b> Providing and fixing chequered plate in approved panel or over steel structure platform,cable and pipe trench including cutting, welding, hoisting, fixing in position,including painting as per specification, complete in all respect as per drawings , technical specifications and directions of the Engineer-In-Charge.	KG	4050					
ST-6	<b>Supply, fabrication &amp; erection of Display / Information / Warning Sign Boards</b> Supply, fabrication and fixing in position of steel sign boards fabricated from pipes, angles, flats section including 3 mm thick plate with necessary cleat, clamps or necessary fixing arrangement including primer and paining of approved colour as per specification including Alphabets of approved size and font and Logo to be painted on Display,informatary,warning sign board with day glow paint shall be completed as per standard detail of IGGL/as per direction of E/C including fixing at appropriate location, ture alignment and embedded in PCC block .The work is to be completed in all respect as per drawings and technical specification and direction of the Engineer-in-Charge (excluding PCC Block).	KG	1625					
<b>Notes:-</b>								
1	The quantities indicated are estimated values and hence are approximate. Final payment will be made based on actual quantities to be certified by the Purchaser.							
2	The cost & weight of MS bolts (permanent and service), washers, electrodes, putty, gases, cost of straightening the raw materials, cutting of flats from plates and providing splices, paints, tools, plants, electric power,water,other consumables, as required for the work shall be deemed to be included in the quoted rates.							
3	All handling and transport charges of raw materials and fabricated structures including double handling, as required, for completion of work in accordance with time schedule, are deemed be included in the quoted rates							
<b>Note:</b>								
(i) The bidder must indicate currency(ies) against each quoted item of the SOR.								
(ii) The total amount shall also be given by the bidder in the quoted currency(ies).								
						Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)		
Place				Signature of Authorised Signatory				
Date				Name :				
Tender No.:				Designation :				
Offer No. & Date :				Seal :				



		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b></p> <p style="text-align: center;"><b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b></p> <p style="text-align: center;">Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</p>							
4(IV)					Price in INR				
		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)	
Sl.No.	Description of Item			In Figure	In Words	In Figure			
<b>I</b>		<b>FLOORING</b>							
AR-1.1	Providing and laying <b>Polished Granite stone flooring</b> in required design and patterns, in linear as well as curvilinear portions of the building, all complete as per the architectural drawings, with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand), laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge	sqm	33						
AR-1.2	Providing and laying <b>Stone tile (polished) work for wall lining</b> including dado, skirting, risers of steps, planter walls, etc., over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete.	sqm	275						
AR-2	Providing and laying <b>kota stone slab flooring</b> over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :								
AR-2.1	25 mm thick	sqm	1100						
AR-3	Providing and laying mirror polished <b>Kota stone slabs</b> 12 mm thick in <b>risers of steps, skirting, dado, pillars, external cladding</b> laid on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	sqm	200						
AR-4	Extra for <b>nosing</b> in treads of steps of:								
AR-4.1	<b>Granite slab</b>	m	22						
AR-4.1	<b>Kota stone slab</b>	m	600						
AR-5	Providing and fixing 20mm thick polished granite/ kota stone of 250mm wide of approved shades for window sills, coping, etc. & including 20mm thick mortar bed CM 1:4, curing, polishing of exposed surfaces and all bye works complete.								
AR-5.1	Granite	m	275						
AR-5.2	Kota	m	170						
AR-6	Providing & laying rectified <b>Vitrified floor</b> tile 1st quality of approved make in different sizes (thickness as per approved manufacturer's detail) with water absorption's less than 0.08% and conforming to IS:15622 of approved quality,shade,range and pattern, using cementitious modified quick set tile adhesive, water based conforming to IS:15477 using 5kg adhesive per m2 area in average thickness of 3 mm, laid to proper level and joints pointed with tile jointing compound of approved make including curing, finishing and cleaning etc. complete as directed by the EIC. The measurements shall be based on laid area of floor and no extra payment shall be paid for wastage. The rates shall include cost of laying protective PVC sheets/ POP which shall keep the floor covered at all times till handing over of the site etc. complete. Item shall be inclusive of screed bed of minimum thickness 15mm in CM 1:4.								



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4(IV)		ARCHITECTURAL WORKS		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)
Sl.No.	Description of Item			In Figure	In Words	Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		In Figure		
AR-6.1	Size of Tile 600x600 minimum and minimum thickness 9 mm.	sqm	545							
AR-7	Providing and laying <b>vitrified floor tiles</b> 1st quality of approved make (thickness as per approved manufacture's detail but not less than 7 mm) matching / same as the size and colour of flooring in <b>skirting, riser, dados and wall facing (lining) and pillars</b> using cementitious modified quick set tile adhesive, water based conforming to IS:15477 using 5kg adhesive per m2 area in average thickness of 3 mm, of approved make, laid to proper level and joints pointed with tile jointing compound of approved make including finishing and cleaning etc. complete as directed by the EIC.	sqm	115							
AR-8	Providing & laying approved make and colour <b>heavy duty vitrified tiles</b> in floors and skirting over 20 mm cement mortar bed 1:4 including cutting of tiles wherever required, pointing the joints in neat white cement with matching pigment, cleaning, washing, curing, etc., complete as per specification and direction of the engineer.									



 IGGL		<b>SCHEDULE OF RATES FOR            LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR            SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>  <b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> Bid Doc. No.: 05/51/23UU/IGGL/001-I-4					 MECON LTD		
4(IV)		<u>ARCHITECTURAL WORKS</u>		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Price in INR		Service Accounting Codes (SAC)
Sl.No.	Description of Item			In Figure	In Words	Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
		Unit	Quantity			In Figure	In Words		
AR-8.1	Size of Tile 300x300 mm and minimum thickness 12 mm	sqm	1000						
AR-9	Providing and laying glazed/ matte finish <b>ceramic tiles for Dado</b> with a recycle content of 35-55% of Group - I classification, conforming to IS:13754 of approved colour at all levels and locations with necessary specials etc. using approved first quality tiles as shown in the drawing laid over and including minimum 12 mm thk. CM 1:3 backing or tile fixing adhesive with volatile organic compounds not exceeding 65 g/l mixed to cement paste used for fixing the tiles, joints filled with white cement mixed with matching shade of pigment etc. at all leads and lifts, complete with all byeworks as per specification and direction of Engineer Incharge.	sqm	25						
AR-9.1	Size of tile 300 mm X 600 mm (approx.)	sqm	325						
AR-10	Providing and laying <b>anti-skid MATTE FINISH ceramic tiles</b> in flooring with a recycle content of 35-55% of Group - IV classification, conforming to IS:13754 and of approved colour at all levels and locations using approved first quality tiles in flooring of toilets, pantry etc. and as shown in the drawing laid over and including minimum 35 mm bed (CM 1:3) joints filled with white cement mixed with matching shade of pigment etc. at all leads and lifts, complete with all byeworks as per specification and direction of Engineer Incharge. Grooves to be filled with water proof grouting compounds.								
AR-10.1	Size of tile 30 cm X 30 cm (approx.)	sqm	65						
AR-11	Providing and laying <b>Crazy ceramic tile flooring</b> , with under layer 12 mm thick cement mortar 1:4 (1 cement: 4 coarse sand), with joints not exceeding 5 mm, including filling the gaps with ordinary cement mixture & mixing with synthetic polyester fibre, triangular in shape having specific gravity of 1.34 to 1.40, cross section size ranging from 10 to 40 micron & length upto 6 mm, mixing fibre @ 125 grams per 50 kg of cement in cement mortar, including providing and mixing water proofing material in mortar @ 1 kg per 50 kg of cement, all complete as per direction of Engineer-in-charge.	sqm	3000						
AR-12	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.								
AR-12.1	40 mm thick with 20 mm nominal size stone aggregate	sqm	140						
AR-13	Providing and fixing 10 mm thick <b>acid and/or alkali resistant tiles</b> of approved make and colour using acid and/or alkali resisting mortar bedding, and joints filled with acid and/or alkali resisting cement as per IS : 4457, complete as per the direction of Engineer-in- Charge.								
AR-13.1	In flooring on a bed of 10 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)	sqm	280						
AR-13.2	In dado/skirting on 12 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)	sqm	450						
<b>II FINISHING</b>									



 IGGL		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4					 MECON LTD						
4(IV)		ARCHITECTURAL WORKS		Unit		Quantity		Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)	
Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		In Figure		In Words		In Figure							
SI.No.	Description of Item	Unit	Quantity	In Figure	In Words	In Figure							
AR-14	Providing 12 mm thick cement plaster 1:4 (1 cement : 4 sand) smooth finish with water proofing compound (to be paid under relevant items) as per architectural shapes marked in the drawings, at all depths and heights in one layer on internal faces of walls, pillars, projection, bands, cornices etc., including necessary dabbing, curing, scaffolding, providing chicken mesh at junctions of columns,beams etc.,complete at all heights as per specification and drawings.	sqm	7000										
AR-15	Providing 15 mm thick cement plaster 1:4 (1 cement : 4 sand) as per architectural shapes marked in the drawings, at all depths and heights, providing chicken mesh at junctions of columns,beams etc.,complete at all heights as per specification with water proofing compound (to be paid under relevant items).	sqm	16600										
AR-16	Providing 6 mm thick cement plaster 1:4 (1 cement : 4 sand) to ceiling of slabs, chajjas including drip course, bands, beams, columns, loft slabs, staircases, and any other location at all heights wherever required with all bye works dabbing, curing, scaffolding, including providing chicken mesh at junction of columns,beams etc.,complete at all heights and levels as per specification and drawings.	sqm	4000										



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		ARCHITECTURAL WORKS		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Price in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	
Sl.No.	Description of Item			In Figure	In Words	In Figure		
AR-17	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections							
AR-17.1	Providing drip mould of size 20mm x 8mm over cement plastering of chajjas, roof projections etc. at all heights and levels in cement mortar 1:3, hacking, curing, scaffolding etc at all heights and lifts, all complete as per specifications and instructions of the Engineer Incharge.	metre	260					
AR-17.2	Forming groove of uniform size from 10x10mm in plastered surface as per approved pattern using wooden battens, nailed to the under layer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and direction of the Engineer-in-Charge.	metre	14250					
AR-18	Providing and applying two coats of Expa Cool Premium Exterior Emulsion from British paints (Certified Green building product) or Exterior emulsion paint (Eco friendly paint with low Volatile Organic Compounds) of Asian paints or equivalent make of approved brand over a coat of approved primer consisting of volatile organic compounds less than 50g/L, at all heights and levels, including surface preparation, scaffolding at all locations and heights with all byeworks complete as per manufacturer's specification and direction of the Engineer Incharge.	sqm	17250					
AR-19	Providing and applying two coats of acrylic oil bound washable distemper- Eco friendly paint with low Volatile Organic Compounds ( not exceeding 50 g/L ) over ceiling, of approved shade & make over one coat of approved cement primer consisting of volatile organic compounds less than 50g/L as per specifications and as directed by Engineer Incharge etc. complete.	sqm	9900					
AR-20	Providing and applying wallcare Putty on plastered surfaces on internal walls for smooth and dry surface essential for painting, after removing all loosely adhering material from the wall surface. The substrate should be clean, free from dust, grease and loose materials. Dry and absorbent surfaces should be moistened with sufficient quantity of clean water. Apply the first coat on already moistened wall surface from bottom to upward direction uniformly. After drying of first coat of putty just rub the surface gently with west sponge or rub the surface very gently with the putty blade in order to remove the loose particles. Allow the surface to dry for atleast 3 hours and then apply second coat of putty. Leave the surface to dry completely. After drying of second coat remove marks if any with the help of moist sponge or rub the surface very gently with the putty blade. Leave the surface to dry preferably for overnight.The total thickness of the coats should be limited to maximum 1.5mm.	sqm	9900					
AR-21	Painting with synthetic enamel paint - Eco friendly paint with low volatile organic compounds ( limit not exceeding 50g/L) over a coat of primer consisting of volatile organic compounds less than 50g/L of approved brand as per approved manufacturer's spec. to give an even shade. Two coats of synthetic enamel paint on new work over one coat of zinc chromate primer.	sqm	400					
AR-22	Providing and making company logo on boundary wall (on alternate panels) with prefabricated mould to be pressed on the plastered surface within a recess (1200mm x 1500mm x 30mm thk. deep) while it is green. Necessary, touch ups, etching, chiseling to be done as per requirement for depicting the exact logo. The dimensions of the logo shall be 450mm X 900mm (approx.). The logo shall be painted with external acrylic emulsion paint in company corporate colours.	no.	65					
AR-23	Providing and installing acrylic backlit LED signage of company logo of size 900mm X 1200mm approx. on building façade wall.	no.	7					
<b>III</b>								
<b>STONE WORK</b>								
AR-24	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanitycounters, window sills , planters facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) using neat cement slurry @ 4 kg of cement per sqm with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, edge moulding and polishing to edge to give high gloss finishetc. complete at all levels.	sqm.	125					



 <b>IGGL</b>		<b>SCHEDULE OF RATES FOR            LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR            SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>					 <b>MECON LTD</b>				
		<b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)            Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</b>									
4(IV)		<u>ARCHITECTURAL WORKS</u>		Quantity		Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)	
SI.No.		Description of Item		Unit		In Figure		In Words		In Figure	
AR-24.1		Granite of any colour and shade									
AR-24.1.1		Area of slab over 0.50 sqm		sqm.		6					
AR-25		Extra for providing edge moulding to granite stone counters including machine polishing to edge to give high gloss finish etc., Complete in all respects		metre		9					
AR-26		Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete.		each		5					
AR-27		Providing and fixing 18 mm thick granite stone slab of approved shade, table rubbed, edges rounded and polished of size 75x50 cm deep and 1.8 cm thick fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.		no.		1					
<b>IV</b>		<b>STEEL WORK</b>									
AR-28		Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp of internal dia. 140 mm, 73mm height, top lid of 1.5mm thick MS sheet with its top surface hacked for proper bonding, top lid shall be screwed into the Cast Iron/ MS sheet box by means of 3.3mm dia. round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.		each		20					
AR-29		Steel work welded in built up sections/framed work including cutting hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc.as required.									
AR-29.1		In stringers, treads, landings, balustrades etc. of staircases including use of chequered plate wherever required, all complete including all bye-works.		kg		3000					
AR-29.2		In gratings, frames, guard bar, ladders, brackets, gates, grill door and similar works.		kg		1000					
AR-30		Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, landing railing, and staircase railing as per IS 4923 including applying a priming coat of approved steel primer.									
AR-30.1		66x36x3.6 m.s. hollow section approximately.		kg		2500					
AR-31		Supplying and fixing mechanically operated rolling shutters/ rolling grills of approved make operable from inside and outside conforming to IS : 6248, made of 80x1.25mm size M.S. laths with 1.25 mm thick top cover, interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete including the cost of providing and fixing necessary 27.5cm long wire springs grade No.2, M.S. top cover of required thickness for rolling shutters, with approved quality red oxide zinc primer and two coats of synthetic enamel paint of approved make (ICI or equivalent), making good all damaged surfaces, complete with all byeworks as per drawing, specification and instruction of engineer, in general conforming to IS : 248.									
AR-31.1		Mechanically operated rolling shutters		sqm		65					



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ARCHITECTURAL WORKS		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
Sl.No.	Description of Item			In Figure	In Words	In Figure		
V		ALUMINIUM WORK						
AR-32	<p>Providing &amp; fixing in position aluminium doors, windows, ventilators, louvres, fixed glazing, sliding/composite windows, aluminium rough ground etc. with extruded &amp; integral colour powder coating with <b>minimum 60 microns</b>, Aluminium sections, Powder coated Aluminium beadings, Powder coated Aluminium profile panel sheets, manufactured to relevant I.S. codes &amp; using minimum 2mm thick (or as specified) heavy sections from <b>environmentally compatible products containing minimum of 15 to 25 % of recycled content</b> and shall be <b>manufactured within 500 kms from project site</b> from approved make including cost of providing required no. of heavy duty stainless steel butt hinges, pivots, approved door and windows handles, EPDM Gasket, PVC/Neoprene Gasket Lining, Stainless steel screws, mastic filling, weather strips, tower bolts, nuts, washers, rollers etc. as required and as per drawing etc. all complete at all heights and as directed by the Engineer-in-Charge. The rate shall also include giving a coat of bitumastic paint on the aluminium surfaces in contact with masonry / concrete and closing the gaps around the frame and the adjoining surface with approved <b>silicone sealant with volatile organic compounds content less than 250 g/l</b> on both faces to achieve watertightness. All fitting shall be of matching colour powder coated aluminium sections</p> <p>All doors, windows &amp; ventilators shall have float glass of the following specifications SHGC - 0.25 to 0.3, U Value 3.8W/sqm-k or less, of approved make or / double side prelaminated particle board flat pressed three layer or graded wood particle board bonded with BWP type synthetic resin adhesive as per IS : 848 and prelaminated conforming to IS: 12823 Grade I Type II, in panelling (for doors) as per design</p>							
AR-32.1	Casement windows, single or composite units and ventilators with 5.5 mm thick float / frosted glass, frame size of 44mm x 46mm x 1.1mm, weight 0.522 kg/m min. amd middle frame (horizontal & vertical) 59mm x 38mm x 1.4mm, weight 0.729 kg/m min(approx.), as per approved drawing and as per approved manufacturer's detail.							
AR-32.1.1	Fixed portion	sqm.	185					
AR-32.1.2	Openable portion, section size 44mm x 46mm x 1.4 mm, weight 0.575 kg/m min. as per approved drawing and as per approved manufacturer's specification.	sqm.	9.5					
AR-32.2	Composite sliding windows with fixed and openable portion, fixed to frame size min. 101.6mm X 44.45mm x 2.01mm, weight 1.605 kg/m (approx.) and 63.5mm x 38.1mm x 1.5mm, weight 0.861 kg/m min. as per requirement. Sliding shutters fixed to frame size 92mm X 31.75mm x 1.5mm min. & weight 1.060 kg/m min and 61.85mm x 31.75mm x 1.5mm, wt. 0.784 kg/m min as per requirement. Shutter side, bottom and interlock shall be 40mm x 18mm x 1.55mm wt. 0.547kg/m min., as per approved drawing and as per approved manufacturer's detail. Frame for grill shall be 63.5mm x 38.1mm x 2mm & wt. 1.054kg/m. Windows shall have 5.5 mm thick float glass. The sliding fittings/ accessories shall be derailing wheels with Nylon brackets with SS pin – 2 Nos. per shutter. The lock handle, safety plates, nylon anti-lift and joinery shall be as per specification.	sqm.	335					
AR-32.3	Doors with 8.0mm minimum thick float glass panels/ aluminium louvre with wire mesh/ double side prelaminated particle board flat pressed three layer or graded wood particle board bonded with BWP type synthetic resin adhesive as per IS : 848 and prelaminated conforming to IS: 12823 Grade I Type II, in panelling fixed with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of E-I/C with decorative lamination on both sides of approved make; frames of size 101.6mm x 44.45mm x 3.18mm minimum, weight 2.541 kg/m min(approx.).							
AR-32.3.1	fixed portion	sqm.	25					



		<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>						
<b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> Bid Doc. No.: 05/51/23UU/IGGL/001-I-4		<b>Price in INR</b>						
4(IV)	<u>ARCHITECTURAL WORKS</u>	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Service Accounting Codes (SAC)
SI.No.	Description of Item			In Figure	In Words	In Figure		
AR-32.3.2	Openable portion, section size 85.00mm x 44.45mm x 3.00mm weight 2.050 kg/m min.(approx.) for shutter vertical and top, 114.3mm x 44.5 x 3.18mm weight 2.646 kg/m min. for shutter bottom and 83.5mm x 44.5mm x 3.18mm weight 2.145 kg/m min. for shutter middle.	sqm.	195					
AR-33	Providing and fixing double action hydraulic floor spring of approved brand and manufacturer, for doors including cost of cutting floors as required, embedding in floors and cover plates with brass / SS pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.							
AR-33.1	With stainless steel cover plate	each	58					
AR-34	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer of approved brand and manufacturer (door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	each	35					
AR-35	Providing and fixing aluminium grills of approved make of approved design made up of 10 mm dia aluminium rod and maximum size of opening (diagonal/ hexagonal/ circular) 100 mm x 100 mm internal, and specification as per manufacturer's detail	sqm.	350					
<b>VI</b>								
<b>PVC WORK</b>								
AR-36	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement , including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	m	110					
AR-37	Providing and fixing factory made 30 mm thick non decorative finish door shutter made of solid PVC foam profile. The styles & rails shall be of size 75 mm x 30 mm having wall thickness 5 mm. The styles, top & bottom rails shall have one side wall thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power. The styles and rails shall be reinforced with M.S. tubes of size 33 mm x 17 mm x 1 mm, painted with primer , all four corners of reinforcement to be welded or sealed. Solid PVC extruded bidding (push fit type) will be set inside the styles and the rails with a cavity, to receive single piece extruded 5 mm PVC sheet as panel. The styles and rails will be mitred cut and joint with the help of PVC solvent cement & self driven self tapping screws. Single piece extruded solid PVC lock rail of size 100 mm x 30 mm with wall thickness 5 mm & 15 mm integrally extruded in the middle of the lock rail & fixed with styles with the help of PVC solvent cement & self driven self tapping screws of size 100 mm x 8 mm complete as per manufacturer's specifications and direction of Engineer-in-charge.	Sqm	40					
<b>VII</b>								
<b>FALSE CEILING</b>								

		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT  AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4						
4(IV)					Price in INR		Service Accounting Codes (SAC)	
ARCHITECTURAL WORKS		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
Sl.No.	Description of Item			In Figure	In Words	In Figure		
AR-38	Providing and fixing <b>false ceiling</b> at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595X595 mm of approved texture, design and patterns having NRC (Noise Reduction Coefficient) of 0.50 (minimum) as per IS 8225:1987. Light reflectance of 85% (minimum), non combustible as per BS:476 (part-4), fire performance as per BS:476 (part-6 & 7), humidity resistance of 100%, thermal conductivity <0.043 W/m K as per ASTM 518:1991, in true horizontal level suspended on inter-locking metal powder coated T-Grid of hot dipped galvanised iron section of 0.40mm thick on Silhouette profile, rotary stitched double webbed white with 6mm reveal profile (white/black), comprising of main -T runners of size 15x42mm of length 3000mm, cross-T of size 15x42mm of length 1200mm and secondary intermediate cross-T of size 15x42mm of length 600mm to form grid module of size 600x600mm, suspended from ceiling using galvanised mild steel items (galvanised @ 80 grams per sqm) i.e. 50mm long, 8mm outer diameter M-6 dash fasteners, 6mm dia fully threaded hanger rod upto 1000mm length and L-shape level adjuster of size 85x25x2mm. Galvanised iron perimeter wall angle of size 22x19x0.40mm of length 3000mm to be fixed on periphery wall/ partition with the help of plastic rawl plugs at 450mm center to center and 40mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge. With 15mm thick integral densified micro edge light weight calcium silicate false ceiling tiles	sqm.	500					
AR-39	Providing and fixing in position 12.5 mm thick gypsum board false ceiling conforming to IS 2095 -1982 with approved G.I Frame work and hangers including openings for lights, air conditioning grills, fire detectors, nozzles, recess for hanging blinds,etc. as per specification and description complete. Rate shall include vertical as well as horizontal surfaces as per design drawing and actual 'seen' surface of horizontal and vertical will be measured and paid for. Layout and design of false ceiling with cutouts & decorative mouldings etc.to be approved by EIC	sqm.	100					
<b>VIII MISCELLANEOUS</b>								
AR-40	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion (Single socketed pipes). 110 mm diameter	metre	280					
AR-41	<b>Waterproofing System for Roof Slab</b> <b>Surface Preparation:</b> remove all surface laitance and contamination free from loose aggregate or other sharp protrusions with fairly smooth finish by wire brush and grinding method and surface shall be DRY for application of single component pitch modified polyurethane cures by reaction with atmospheric moisture to give a tough elastomeric waterproof membrane. <b>System :</b> Providing and applying 1.2 mm thick roller applied single component Bitumen Modified Polyurathene coating, having elongation capability of 450% as per ASTM D412, having Tensile strength 1.5N/mm <sup>2</sup> as per ASTM D 412, Tear Resistance of 15N as per ASTM D 624 and having shore A Hardness 50 as per ASTM D 2240. Waterproofing treatment to be provided after proper surface preparation as per manufacturer specification and making of coving at the junction of horizontal and vertical surface by Polymer Modified Mortar and treatment of crack if any on the surface by ow viscous epoxy resin injection. <b>screed to slope :</b> Providing and laying 50mm thick screed concrete of M20 grade mixed with approved water proofing compound like Integral waterproofing compound conforming to IS 2645) over the coated surface including application of 300 GSM geotextile layer over the waterproofing.	sqm.	3000					



 <b>IGGL</b>		<b>SCHEDULE OF RATES FOR            LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR            SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>  <b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> <b>Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</b>					 <b>MECON LTD</b>						
4(IV)		<u>ARCHITECTURAL WORKS</u>		Unit		Quantity		Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)	
Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		In Figure		In Words		In Figure							
SI.No.	Description of Item	Unit	Quantity	In Figure	In Words	In Figure							
AR-42	<p>Providing and fixing noncombustible 600mm high false flooring / cavity floor of modular 600 x 600 size and min thickness of 35mm approximate with pre moulded (USF 1000 grade) in filled access floor tile made from steel and cementitious infill material (M/S Untile or equivalent), with edge beading and faced with 2 mm thick antistatic high pressure laminates. The Panels shall conform to Class O &amp; Class 1 Fire Ratings tested as per BS 476 and ASTM E84. The panel shall be designed for minimum concentrated load of 450 kgs, ultimate concentrated load of 1050 Kgs, Rolling load of 225 kgs. The other components such as stringers, pedestals, supports, check nuts, etc shall be designed suitable in-line with the design parameter of the false floor panel.</p> <p>The panels shall be placed on GI snap lock grid system stringers channels supported over MS galvanized pedestal supports at 600mm c/c approximate both ways.</p> <p>Jack heads shall be die formed, out of min 4mm thick galvanized M.S. plate out of 90 mm X 90 mm, electroplated, with die cut notches to hold stringers 'snap on' and threaded holes, in addition, to hold the rigid grid type stringers. The jack heads shall have stud for housing into the pedestal. The pedestal head shall consist of an anti-vibrational conductive cap</p> <p>Stringers shall be M.S. rigid grid type minimum 30 mm X 20 mm X 1.2 mm thick tubes and shall rest on the jack heads notches and shall be fixed by means of screws. The stringers shall be spray painted with conductive paint or galvanized to prevent rust &amp; corrosion.</p> <p>The pedestal supports shall be rigidly fixed on to the floor with glue and mechanical fasteners and shall be made of 150 x 150 mmx 8mm thick base plate with CRC pipe of size 32mm dia X 3mm and minimum 19 mm thick MS stools with a coupling and check nut for level adjustment. The sub structure assembly shall be suitably anchored to the floor.</p> <p>The work includes necessary opening for cables and panel mounting and cutting of tiles to required size and strengthening of pedestals with 300 x 300 mm RCC pedestal at location of panels. The floor panels and stringers shall be completely removable and shall remain in position without screwing. The shade of the flooring material shall be as specified in the drawing or as directed by Engineer. ( The cost includes supply of 1% spare tile)</p>	sqm.	130										
<b>IX</b>		<b>LANDSCAPING</b>											
AR-43	<p><b>SHRUB PLANTATION</b></p> <p>Digging of beds of required size and 60 cms.depth in any type of soil. Refilling the pits after dweeding, with a mixture of good earth and cow dung organic manure in the ratio of 3:1 (Three part of good earth and one part of organic manure). Flooding the bed with water so that the earth and manure mixture settles down in pits. Supply and plantation of approved shrub species sapling of good quality, disease free, healthy, fully established 1-2 year oil with well developed root system in the centre of pit, with a clear minimum height of 1 feet after plantation and spacing 1.5 feet. Maintaining &amp; watering for 06 months regularaly as the minimum guarantee period, all complete including supplying &amp; mixing of good earth &amp; manure. Healthy properly grown shrubs (atleast 3 months old after planting at site) should be provided during handover on completion of the project. (Varieties : Approved local equivalent species).</p>	nos.	150										
AR-44	<p><b>HEDGE PLANTATION</b></p> <p>Digging of trenches of size 60 cms x 45 cms x running mts length in all type of soil. Rest all the item are same as that of Shrub plantation except that the minimum 07 number of hedge sapling be planted per running metre (Varieties : Approved local equivalent species).</p>	metre	800										



		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT  AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4						
4(IV)		ARCHITECTURAL WORKS		Price in INR			Service Accounting Codes (SAC)	
SI.No.	Description of Item	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
X	SANITARY INSTALLATIONS			In Figure	In Words	In Figure		
AR-45	Providing and fixing vitreous chinaware white/ colour wall mounted type <b>European water closet</b> with concealed cistern of dual flush type, 3/6 litres capacity (In-wall tanks), concealed flush pipes complete in all respects. Kohler Cat. No. REPLAY K-6098IN-S-O, face plate cat. no. D3-K-75891IN-M-CP & concealed cistern cat no. INSTAFLUSH K-77028IN-NA with connector accessory Cat no. 1046327-s & rack bolt Cat no. 1213309-0 or approved equivalent.	no.	2					
AR-46	Providing & fixing C.P. brass <b>health faucet</b> : Kohler cat no. 12927IN-CP or approved equivalent.	no.	2					
AR-47	Providing and fixing white vitreous china water closet ( <b>Orissa Pan</b> ) with all fittings and fixtures complete including cutting and making good the walls and floors wherever required. Cat no.CNS-WHT-OP01 of Jaquar or equivalent + Wall Hung Cistern Cat No. WHC-WHT-184T or approved equivalent.	no.	7					
AR-48	Providing & fixing vitreous china ware white/ colour <b>under counter wash basin</b> with Cp brass waste, Kohler Cat. No.CAXTON 2211IN-0 or approved equivalent, including providing & fixing C1 / MS brackets duly painted with two or more coats of synthetic enamel paint, complete in all respect with single control pillar tap, Cat no. JULY 75377IN-4-CP of Kohler or approved equivalent.	no.	4					
AR-49	Providing and fixing white vitreous china <b>semi-pedestal type wash basin</b> Cat. no. K-96051IN-0 of Kohler or approved equivalent, including providing & fixing C1 / MS brackets duly painted with two or more coats of synthetic enamel paint, complete in all respect and pillar cock Cat No. JULY 75377IN-4-CP of Kohler or approved equivalent, complete in all respect completely recessed at the back for the reception of pipes and fittings all complete	no.	11					
AR-50	Providing and fixing white vitreous china flat back half stall <b>urinal</b> cat no. Bardon Mid size 4978IN-ER-0 of Kohler or approved equivalent with PATIO Urinal Sensor (Direct-fed) 8791T-C01-CP/SC of Kohler or approved equivalent.	no.	3					
AR-51	5.5 mm thick float glass frameless <b>mirror</b> fixed with stainless steel studs, all complete	sqm.	11					
AR-52	Providing and fixing <b>Glass Shelf</b> - Cat no. COMPLIMENTARY K-5636IN-CP of Kohler or approved equivalent, complete in all respect.	no.	2					
AR-53	Providing and fixing <b>toilet paper holder</b> - Cat no. COMPLIMENTARY K-5632IN-CP of Kohler or approved equivalent, complete in all respect.	no.	4					
AR-54	Providing and fixing <b>soap dish</b> - Cat no. COMPLEMENTARY K-5634IN-CP of Kohler or approved equivalent, complete with all respect.	no.	8					
AR-55	Providing and fixing <b>Soap dispenser</b> and holder with frosted glass bottle in polished chrome - Cat no. CRUZ K-10712D-CP of Kohler or approved equivalent, complete with all respect.	no.	12					
AR-56	Providing and fixing C.P. brass <b>bib cock</b> :							
AR-56.1	Kohler Cat No, JULY K-16093IN-4-CP or approved equivalent	no.	14					



 IGGL		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT  AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4					 MECON LTD				
4(IV) <u>ARCHITECTURAL WORKS</u>				Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)	
Sl.No.	Description of Item					In Figure	In Words	Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
AR-56.2	Two in one bib cock, Kohler Cat No. JULY K-16094IN-4-CP or approved equivalent	no.	3								
AR-57	Providing and fixing C.P. brass concealed <b>stop cock</b> Kohler cat. no. JULY K-16087IN-4-CP or approved equivalent	no.	25								
AR-58	Providing and fixing CP brass <b>coat hook/ robe hook</b> in position - Kohler cat. no. COMPLEMENTARY K-5635IN or approved equivalent	no.	2								
AR-59	Providing and fixing CP Brass <b>Grid drain</b> with overflow hole for wash basin and sink, of Kohler Cat No. K-45432IN-CP or approved equivalent	no.	11								
AR-60	Providing and fixing CP brass <b>Bottle Trap</b> for Wash basin and sink of Kohler Cat No. COMPLEMENTARY K-7314IN-CP or approved equivalent	no.	12								
AR-61	Providing and fixing CP brass <b>towel rail</b> - Cat no. K-5630IN-CP of Kohler or approved equivalent, complete with all respect.	no.	9								
AR-62	Providing and fixing <b>sinks</b> (without drainboard) made of stainless steel 1mm thick kitchen with plugs, washers and wastes including bedding in Cement mortar to dwarf wall or including fixing cantilever brackets & connecting unions to pipe, coupling & strainer, painting of fittings and brackets, cutting and making good the walls wherever required. Overall size 610 mm x 510 mm Make : Celebrity 8" or India King 8" of Neelkanth or equivalent	no.	1								
AR-63	Providing and fixing C.P. brass long body <b>sink cock</b> with Regular Swinging Spout (Wall Mounted Model) With Wall Flange of Kohler cat. no. CUFF K-37314IN-4-CP or equivalent.	no.	1								
AR-64	Providing and fixing <b>Eye/face wash</b> , model no.7001 pedestal-mounted from Tobit Engineers or equ. (supply connection & provision of bottle trap and connection to nearest drain to be done)	no.	6								
<b>Note:</b> (i) The bidder must indicate currency(ies) against each quoted item of the SOR. (ii) The total amount shall also be given by the bidder in the quoted currency(ies).		Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)									
Place					Signature of Authorised Signatory						
Date					Name :						
Tender No.:					Designation :						
Offer No. & Date :					Seal :						



		<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>						
<b>IGGL</b>		<b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4</b>					<b>MECON LTD</b>	
<b>4 (V)</b>		<b>INSTRUMENTATION WORKS</b>					<b>Price in INR</b>	
<b>Sl. No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Qty.</b>	<b>Unit Rate inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>		<b>Total Amount inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>	<b>Service Accounting Codes (SAC)</b>	
				<b>In Figure</b>	<b>In Words</b>			<b>In Figure</b>
<b>FIELD INSTRUMENTS</b>								
1.00	Supply of <b>Pressure Gauges</b> as per tender document (inclusive of supply of necessary piping materials/tubings, alongwith all necessary valves & fittings, impulse lines/manifolds as per installation standard)	Nos.	36					
1.01	Installation, testing, calibration and commissioning of <b>Pressure Gauges</b> as per tender document (inclusive of necessary piping materials/tubings, alongwith all necessary valves & fittings, impulse lines/manifolds as per installation standard)	Nos.	36					
2.00	Supply of <b>Pressure Gauges alongwith Gauge Saver</b> as per tender document (inclusive of necessary piping materials/tubings, alongwith all necessary valves & fittings, impulse lines/manifolds as per installation standard)	Nos.	4					
2.01	Installation, testing, calibration and commissioning of <b>Pressure Gauges alongwith Gauge Saver</b> as per tender document (inclusive of necessary piping materials/tubings, alongwith all necessary valves & fittings, impulse lines/manifolds as per installation standard)	Nos.	4					
3.00	Supply of <b>Pressure Transmitters</b> as per tender document (inclusive of supply of yoke, supports for impulse lines (wherever required), SS manifolds/ SS impulse lines & SS valves & fittings with supports, as per installation std. no. MEC/05/E5/SD/PT/001)	Nos.	16					
3.01	Installation, testing, calibration and commissioning of <b>Pressure Transmitters</b> as per tender document (inclusive of yoke, supports for impulse lines (wherever required), SS manifolds/ SS impulse lines & SS valves & fittings with supports, as per installation std. no. MEC/05/E5/SD/PT/001)	Nos.	16					
4.00	Supply of <b>Temperature Transmitters</b> as per tender document (inclusive of supply of yoke, supports, etc)	Nos.	15					
4.01	Installation, testing, calibration and commissioning of <b>Temperature Transmitters</b> as per tender document (inclusive of yoke, supports, etc)	Nos.	15					
5.00	Supply of <b>Temperature Gauges with flanged thermowells</b> inclusive of thermowell and other necessary items as per installation standard	Nos.	1					
5.01	Installation, Calibration, Testing & Commissioning of <b>Temperature Gauges with flanged thermowells</b> inclusive of installation of thermowell on the nozzle and installation of instruments as per installation standard	Nos.	1					
6.00	Supply of <b>RTD with flanged thermowell</b> inclusive of thermowell and other necessary items as per installation standard	Nos.	1					
6.01	Installation, Calibration, Testing & Commissioning of <b>RTD with flanged thermowell</b> inclusive of installation of thermowell on the nozzle and installation of instruments as per installation standard	Nos.	1					
7.00	Supply of <b>RTD (Skin Type)</b> as per tender document (inclusive of supply of mounting pad, yoke, supports, etc as per installation standard)	Nos.	14					
7.01	Installation, testing, calibration and commissioning of <b>RTD (Skin Type)</b> as per tender document (inclusive of mounting pad, yoke, supports, etc as per installation standard)	Nos.	14					
8.00	Supply, Installation, testing and commissioning of all the components and accessories of the <b>LEL Detection System</b> comprising of Controller rack, Monitoring card (in Control Panel) & LEL Detectors (in the field) as per tender document (inclusive of yoke, supports, calibration kit, etc).							
8.01 a	Supply of <b>LEL Sensor (point type) with controller cards alongwith accessories</b>	Sets	6					



IGGL	SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT						MECON LTD
	AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4						
4 (V)	<b>INSTRUMENTATION WORKS</b>	Unit	Qty.	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)
SI. No.	Description of Items						
8.01 b	Installation, testing and commissioning of LEL Sensor (point type) with controller cards alongwith accessories	Sets	6				
8.02 a	Supply of LEL Controller Rack alongwith accessories	Nos.	2				
8.02 b	Installation, testing and commissioning of LEL Controller Rack alongwith accessories	Nos.	2				
8.03	Supply of Calibration Kit for LEL Detection System (inclusive of Gas Canister, Calibration cap & accessories)	Nos.	2				
9.00	<b>FULLY WIRED PANELS ALONGWITH ACCESSORIES</b>						
9.01 a	Design, Engineering and Supply of Fully wired Control Panel cum TIC Panel (Free standing type, 2115 (mm) H (including 100 mm base + 15 mm anti-vibration pad) x 1200 (mm) W x 800 (mm) D) alongwith all accessories including valve auto-closure as per tender Document s. All the signals of electrical, instrumentation, RTU/SCADA, CP, metering skid, etc. are to be interfaced through this Panel and necessary TBs alongwith accessories shall be provided for the same.	Nos.	6				
9.01 b	Installation, testing and commissioning of Fully wired Control Panel cum TIC Panel (Free standing type, 2115 (mm) H (including 100 mm base + 15 mm anti-vibration pad) x 1200 (mm) W x 800 (mm) D) alongwith all accessories including valve auto-closure as per tender Document s. All the signals of electrical, instrumentation, RTU/SCADA, CP, metering skid, etc. are to be interfaced through this Panel and necessary TBs alongwith accessories shall be provided for the same.	Nos.	6				
10.00	<b>Panel Mounted Items (rest of the items are to be included in above panels supply)</b>						
10.01 a	Supply of Barriers cum Signal Distribution Card	Nos.	43				
10.01 b	Installation, testing and commissioning of Barriers cum Signal Distribution Card	Nos.	43				
10.02 a	Supply of Digital Indicators	Nos.	43				
10.02 b	Installation, testing and commissioning of Digital Indicators	Nos.	43				
10.03 a	Supply of lamps, push buttons, relays, wiring, etc. required for each gas actuated valve	Nos.	20				
10.03 b	Installation, testing and commissioning of lamps, push buttons, relays, wiring, etc. required for each gas actuated valve	Nos.	20				
11.00	<b>FREE ISSUE ITEMS</b>						
11.01	Supply of SS tubes and fittings, manifold/ isolation valves, sockleets etc along with supports for impulse lines (wherever required), hydraulic oil (if required) for each Gas Actuated Ball Valves (AV) /HOV as per the direction of Engineer-In Charge but exclusive of supply of Valves with actuator.	Nos.	8				
11.02	Testing , Commissioning , Electrical termination, calibration of Non Intrusive Pig Signallers including all manpower, tools & tackles, equipments, consumables, etc. required as per direction of Engineer-in-charge.	Nos.	8				
11.03	Testing & Commissioning of Metering Skids (alongwith Metering Panels, free issued cables, etc.) including all manpower, tools & tackles, equipments, consumables, etc. required as per direction of Engineer-in-charge. Scope also includes installation of metering panel & laying of free issued cables.	Nos.	1				



		<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>					
<b>IGGL</b>		<b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> <b>Bid Doc. No.: 05/51/23UU/IGGL/001-i-4</b>					<b>MECON LTD</b>
<b>4 (V)</b>		<b>INSTRUMENTATION WORKS</b>					<b>Price in INR</b>
<b>Sl. No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Qty.</b>	<b>Unit Rate inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>		<b>Total Amount inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>	<b>Service Accounting Codes (SAC)</b>
11.04	Calibration of <b>Pressure Safety Valves</b> installed on Scrapper trap, vessels, etc. alongwith all equipment, man-power, consumables etc as required to the satisfaction of company and as per instructions of Engineer-in-charge.	Nos.	2				
12.00	<b>Installation of Junction Boxes including Supply of Junction Boxes with Glands, plugs for unused entries, supply, fabrication and installation of supports, plugging of unused entries and painting.</b>						
12.01 a	Supply of Explosionproof electrical junction boxes along with supply of yoke, support , Stand, Glands, plugs, etc. for 6 pair/ 6 Triad/ 12 Core cable entry	Nos.	15				
12.01 b	Installation, testing and commissioning of Explosionproof electrical junction boxes along with yoke, support , Stand, Glanding, Termination & loop checking for 6 pair/ 6 Triad/ 12 core cable entry	Nos.	15				
13.00	Supply of <b>Canopies</b> fabricated out of powder coated MS for electronic transmitters including supply, fabrication of support and reflective painting.	Nos.	37				
13.01	Installation, testing and commissioning of <b>Canopies</b> fabricated out of powder coated MS for electronic transmitters including installation of canopy with support and reflective painting.	Nos.	37				
14.00	<b>Supply, laying, testing of FRLS cables (control, signal, power, triad cables) including supply of all required cable glands (Explosion proof double compression type) and consumables like ferrules, clamps, PVC tubes, aluminium/SS tag plates etc., clamping , ferruling, glanding of the cables, termination at both ends, including shield/drain/ communication wire, providing/fixing of identifying tags and megger testing and loop testing . Supply and installation of GI pipes / Hume pipes (in road crossings, buildings, etc.) and PVC pipes (for crossing of electrical cables) is included in the scope of cable laying but exclusive of supply &amp; erection of GI Box/enclosed tray.</b>						
14.01 a	Supply of 1 P x 1.5 mm <sup>2</sup> (Type I), Signal Cable	Mtrs.	1260				
14.01 b	Installation, testing and commissioning of 1 P x 1.5 mm <sup>2</sup> (Type I), Signal Cable	Mtrs.	1260				
14.02 a	Supply of 6 P x 0.5 mm <sup>2</sup> (Type II) Signal Cable	Mtrs.	1500				
14.02 b	Installation, testing and commissioning of 6 P x 0.5 mm <sup>2</sup> (Type II) Signal Cable	Mtrs.	1500				
14.03 a	Supply of 4C x 1.5 mm <sup>2</sup> - Quad Cable (Type-I) , RTD Cables	Mtrs.	450				
14.03 b	Installation, testing and commissioning of 4C x 1.5 mm <sup>2</sup> - Quad Cable (Type-I) , RTD Cables	Mtrs.	450				
14.04 a	Supply of 12C x 1.5 mm <sup>2</sup> ( Type - I ) , Control Cable	Mtrs.	2900				
14.04 b	Installation, testing and commissioning of 12C x 1.5 mm <sup>2</sup> ( Type - I ) , Control Cable	Mtrs.	2900				
14.05 a	Supply of 3C x 1.5 mm <sup>2</sup> , ( Type - I ) Control Cable	Mtrs.	840				



		<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>						
<b>IGGL</b>		<b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4</b>					<b>MECON LTD</b>	
<b>4 (V)</b>		<b>INSTRUMENTATION WORKS</b>						
<b>Sl. No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Qty.</b>	<b>Unit Rate inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>		<b>Price in INR Total Amount inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>		<b>Service Accounting Codes (SAC)</b>
14.05 b	Installation, testing and commissioning of 3C x 1.5 mm <sup>2</sup> , ( Type - I )Control Cable	Mtrs.	840					
14.06 a	Supply of 1 TRIAD x 1.5 mm <sup>2</sup> (Type I) , Signal Cables	Mtrs.	360					
14.06 b	Installation, testing and commissioning of 1 TRIAD x 1.5 mm <sup>2</sup> (Type I) , Signal Cables	Mtrs.	360					
14.07 a	Supply of 6 TRIAD x 1.5 mm <sup>2</sup> (Type IV) , Signal Cables	Mtrs.	500					
14.07 b	Installation, testing and commissioning of 6 TRIAD x 1.5 mm <sup>2</sup> (Type IV) , Signal Cables	Mtrs.	500					
15.00	Supply of Multi cable Transit blocks for all the cables entering in control room for all the Terminals (including 100% spares)	Lumpsum	1					
15.01	Installation , testing and commissioning of Multi cable Transit blocks for all the cables entering in control room for all the Terminals (including 100% spares)	Lumpsum	1					
16.00	Supply of <b>Insulated cable glands</b> for all the instruments and AV of all the <b>SV</b> Terminals. Size of cable gland shall be as per site requirement.	Nos.	28					
16.01	Installation , testing and commissioning of <b>Insulated cable glands</b> for all the instruments and AV of all the <b>SV</b> Terminals. Size of cable gland shall be as per site requirement.	Nos.	28					
17.00	Supply of dielectric fittings for tubing works at all SV stations	Lumpsum	1					
17.01	Installation, testing and commissioning of dielectric fittings for tubing works at all SV stations	Lumpsum	1					
18.00	<b>Supply and erection of prefabricated perforated GI trays of thickness 2 mm including tees, bends and elbows, supply, fabrication and erection of required supports and painting of supports with one coat of primer as per IS:2074 and 2 coats of finished paint including supply of paint as per std. and direction of Engineer In-Charge.</b>							
18.01 a	Supply of 60 mm wide X 30 mm high	Mtrs.	400					
18.01 b	Installation, testing and commissioning of 60 mm wide X 30 mm high	Mtrs.	400					
18.02 a	Supply of 100 mm wide X 30 mm high	Mtrs.	320					
18.02 b	Installation, testing and commissioning of 100 mm wide X 30 mm high	Mtrs.	320					



		<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>					
<b>IGGL</b>		<b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> <b>Bid Doc. No.: 05/51/23UU/IGGL/001-i-4</b>					<b>MECON LTD</b>
<b>4 (V)</b>		<b>INSTRUMENTATION WORKS</b>					<b>Price in INR</b>
<b>Sl. No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Qty.</b>	<b>Unit Rate inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>		<b>Total Amount inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>	<b>Service Accounting Codes (SAC)</b>
18.03 a	Supply of 200 mm wide X 30 mm high	Mtrs.	230				
18.03 b	Installation, testing and commissioning of 200 mm wide X 30 mm high	Mtrs.	230				
18.04 a	Supply of 300 mm wide X 30 mm high	Mtrs.	320				
18.04 b	Installation, testing and commissioning of 300 mm wide X 30 mm high	Mtrs.	320				
19.00	Excavation of trenches for burying the cables, preparation of same for laying of cable, filling with river sand, laying of brick, back filling and compacting of the excavated earth, cable route markers, etc. as per specifications including supply of sand and bricks and removal of surplus earth as per instructions of Engineer-in-Charge. Size of Trench : 600 mm (Width) X 675 mm ( Depth)	Mtrs.	800				
20.00	<b>EARTHING</b>						
20.01	Supply, Laying, testing and Termination of 6 sqmm Copper Wire for instrumentation earthing (in tray and conduits as required) as per site requirement required for the complete scope.	Lumpsum	1				
21.00	Start up & Commissioning of complete terminal instruments as per tender, including all labour, test equipments and other auxiliaries as required, tagging of all the instrumentation items including cables, etc., complete in all respects as per specifications/ drawings/ directions of Engineer-in-Charge. All necessary Testing and commissioning reports, as-built drawings etc., shall also be prepared and to be submitted to the purchaser/consultant	Lumpsum	1				
(i) The bidder must indicate currency(ies) against each quoted item of the SOR.				Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).			
(ii) The total amount shall also be given by the bidder in the quoted currency(ies).							
Place	:						
Date	:						
Tender No.:							
Offer No. & Date :							



 IGGL		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4					 MECON LTD	
4(VI) Telecom Works		Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)
Sl.No.	Description of Item			In Figure	In Words	Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
1.0	Telecommunication Work related to OFC Network has to be carried out by the Bidder as defined in Scope of Work of Job specification, other specifications, drawings, other provisions of Contract and instructions of Engineer-in-Charge including but not limited to followings works. For all supply, the scope covers design, manufacturing, factory testing, inspection, packaging, forwarding, transportation, insurance, handling and storage at site etc. .							
A.0	<b>SUPPLY OF OFC &amp; ACCESSORIES (as per MECON Technical specification MEC/TS/05/E5/T/096).</b>							
1.0	Supply of 24 fibre composite SM Optical fibre cable (6 Fibre G-655 & 18 Fibre G-652D) of 4000 Meter $\pm$ 2.5 % cable drums (Qty as per pipeline length with spare) as per the MECON OFC TS No. MEC/TS/05/E5/T/096 (Shorter length drum (less 4 KM - 2.5 %) shall be strictly treated as per the clause no. 4.3 (e) of OFC TS No. MEC/TS/05/E5/T/096 Any additional necessary requirements due to shorter length as per TS /Scope of work is in vendor scope.	Meter	92000					
2.0	Supply of Jointing Closures (suitable for 24 Fibre OFC ) including all accessories of approved make of MECON only.(Planned Qty : 22 Nos , Spare Qty: 03 Nos)	Nos.	25					
3.0	Supply of Special Tools & Tackles each set consists of all the items as per Annexure 2 of TS No. (as per MECON Technical specification MEC/TS/05/E5/T/096)	Set	1					
B.0	<b>Supply of Permanently Lubricated Telecom HDPE Duct &amp; Accessories as per MECON TECHNICAL SPECIFICATION No. MEC/TS/05/E5/T/037.</b>							
1.0	Supply of 40 mm, permanently lubricated HDPE Telecom DUCT (1000 meter drum), Factory Acceptance Testing as per specification. (Qty with spares) Supply of spare HDPE accessories Plastic Couplers (PC), End Plugs (EP), Cable Sealing Plugs (CSP), End Caps (EC) etc suitable for supplied Duct (Qty as PC-10 nos, EP-10 nos,CSP-10 nos, EC-10 nos).	Meter	91000					
C.0	<b>SITE WORK (as per scope of work, specification no. MEC/S/05/E5/T/001 of Bid documents)</b>							
1.0	Submission of optical fiber cable & HDPE alignment sheets as per the requirements of specification based on the existing pipe line survey (No separate survey reqd.), estimation of OFC & HDPE duct including all accessories in accordance with the alignment sheet and specifications. Laying work can not be started without approval of these documents from Client / Consultant / EIC.	Lumpsum	1					
2.0	<b>Erection of HDPE Duct as per specification</b>							



 IGGL	<b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4</b>						 MECON LTD
4(VI)	Telecom Works	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)
Sl.No.	Description of Item	Unit	Quantity	In Figure	In Words	In Figure	
2.0a	Installation of 40mm OD, permanently lubricated HDPE ducts, in same pipeline trench, direct buried or cased crossing through CS conduit (2 duct in cased crossing) in all type of soil & terrain, all work as define in mainline work, for terminal area or non pipeline area - excavation, padding, backfilling, Laying of common warning mat/ mesh (as supplied for main line), cleaning and sealing of ducts, for river crossing additional blowing pit at both end of the river bank, jointing of HDPE conduit, supply and installation of all erection accessories as required, Testing of laid permanently lubricated HDPE ducts, rectification if required, cleaning and sealing of ducts at the end after testing, preparation of report, joint location marking in CAS, GPS location marking of each coupler, final acceptance / Handing over of the same to client, Drawings and documentation all complete as per specifications provided in the bid document. ( Scope also includes Supply of HDPE accessories required including Plastic Couplers (PC), End Plugs (EP), Cable Sealing Plugs (CSP), End Caps (EC) etc suitable & sufficient for supplied Duct, complete in all respect as per specification and as per direction of EIC). (This duct is for blowing of 24 F for total length of pipeline as per spec. and drawing)	Per Meter of Trench Length	86000				
2.0 b	Supply of OFC Blowing pits / Jointing pit (RCC pit as per MECON dwg & at every 1 KM distance for BP and every 4 KM for JP, at 1 meter away from the main pipeline), including sand etc all complete as per spec for all planned BP/JP, drawing provided in the bid document. Any unpanned BP/JP will not be paid.	Nos.	92				
3.0	<b>Blowing / Laying of Optical Fiber Cable</b>						
	All activities pertaining to Blowing / Laying of optical fiber cable in same pipeline trench inside 40 mm HDPE telecom duct (after testing of OFC drum at site), through CS conduits at crossing, testing of OFC before Blowing/laying, cable sealing etc. using all materials required complete as per specifications and drawing provided in the bid document & as per direction of EIC. (spare loop of 10 Meter at Blowing Pit, 20 Meter at Jointing Pit & 15 Meter at each station on wire-mesh (if applicable) shall be provided- No payments for laying shall be made for these spare loops).The optical fibre cable shall be as per MECON Technical specification MEC/TS/05/E5/T/096	Per Meter of Trench Length	86000				
4.0	Supply & installation of 300 dia OFC cable markers at all pipeline warning markers locations on same pipeline markers / KM marker / directional marker post as per specifications & drawing provided in the bid document and direction of consultant.	Nos.	86				
5.0	Splicing, Jointing of optical fiber cable , final Jointing / splicing, Testing of OFC after jointing all completed as per specifications & drawing provided in the bid document and as per instruction of EIC.	Nos.	25				
6.0	Supply and installation of Joint Marker at all jointing locations as per MECON's drawing all complete as per spec., drawing provided in the bid document and the direction of consultant.	Nos.	25				
7.0	<b>Supply, Installation &amp; Commissioning of Electronic Marker System as per specification , test certificate and documents etc. consisting of :</b>						
a	Electronic Markers (To be buried underground along with OFC Joints at all jointing location)	Sets	25				



 IGGL	SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT  AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-i-4						 MECON LTD
4(VI)	Telecom Works	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)
Sl.No.	Description of Item	Unit	Quantity	In Figure	In Words	In Figure	
b	Electronic Marker Locator and accessories (Including probe and locator electronics)	Sets	1				
8.0	Supply of set of FTC (in & out) (approved Make ) with zero dB connectors & wiremesh (structural size 1.5 Mtr x 1 mtr and mesh size 15 cm x 15 cm) and other accessories for termination of OFC - 24 fibre in the equipment room (at all control room locations) (tentative). At common locations such as SV, IP; contractor has to provide FTC for 48 F with Zero dB connector for both direction OFC termination as per channeling plan. The channeling plan will be provided to successful bidder during detailed engineering.	Set	6				
9.0	Locations where CONTROL ROOM IS AVAILABLE - Installation of FTC for OFC termination (in and out)(approved Make ) with zero dB connectors, installation of wiremesh (structural size 1.5 Mtr x 1 mtr and mesh size 15 cm x 15 cm) and other accessories for termination of OFC in FTC including all the items required for installation of FTC.	Lot	6				
10.0	<b>Termination and Testing</b> Termination of OFC on FTC with Zero Db connector and all work as required for complete termination of OFC on FTC (including splicing) , Slicing with street fibre, Test of each fibre for the smooth operation system on wavelengths, OTDR Test of the laid OFC, station wise and end to end Power Testing of laid OFC, Identification of the fault, Rectification, preparation of reports, reconciliation of OFC etc., all testing reports in the format provided in the tender, CD of all fibre OTDR traces, work complete in all respect with all necessary accessories for all location, final acceptance / Handing over of the same to other contractor and as per the direction of Engineers in charge, as per specification & contract agreement. For Testing & Termination details, Refer PJS .	Lumpsum	1				
<b>Note:</b> (i) The bidder must indicate currency(ies) against each quoted item of the SOR. (ii) The total amount shall also be given by the bidder in the quoted currency(ies).				Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)			
Place				Signature of Authorised Signatory			
Date				Name :			
Tender No.:				Designation :			
Offer No. & Date :				Seal :			

		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4					 MECON LIMITED	
4(VII) FIRE PROTECTION SYSTEM				Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)
Sl. No.	Description of Item	Unit	Quantity			Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
				In Figure	In Words	In Figure		
<b>A FIRE ALARM &amp; CLEAN AGENT SYSTEM</b>								
<b>DESIGN, ENGINEERING, SUPPLY, HANDLING, TRANSPORTATION, INSTALLATION, TESTING &amp; COMMISSIONING OF HIGH PRESSURE CLEAN AGENT (INERT GAS) FIRE SUPPRESSION SYSTEM</b> Clean Gas Fire Suppression Centralised System (Inert Gas High Pressure) complete with required accessories with main and standby bank of cylinders & each cylinder filled with Clean agent Fire extinguishing Agent (Inert Gas) as Main Bank and Standby Bank (As per NFPA 2001 & UL Listed / FM / VDS / LPCB approved) with Pressure Switch & Locking Device, Discharge Nozzles designed to provide the proper flow rate and distribution of Clean Agent to total flood the hazard area: 180 deg. / 360 deg. ( As per NFPA 2001 & UL Listed / FM / VDS / LPCB approved ), ASTM A106 Gr. B Piping, fittings & supports, etc. . Manifold fabricated from seamless pipe, A106 Gr. B having inlets with supports etc. with activation through intelligent addressable Fire Detection and Alarm System panels after receiving signals from detectors, response indicators etc. all complete supply as per approved scheme & MECON TS MEC/TS/05/28/081/J and instructions of Engineer-in-charge. The bidder shall include mandatory spares as described in PJS along with recommended list of spares required for 2 years trouble free operation. Inert gas shall be used as Clean Gas Agent @300 Bar Pressure . Complete work of supply, installation, testing, commissioning includes Handling including lifting and transportation from Owner's / Contractor's own storage yard to work site and inspection charges, installation, testing, commissioning & handing over in accordance with relevant Specifications & relevant Data Sheets indicated in PJS, scope of work, SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT. The areas of rooms to be protected are listed below:								
1.0								
1.1	Control Room building as per enclosed drawing of size 27m X 6 m comprising Instrumentation,Scada / Telecom Room of size 8m X 6m X 4m (h), Electrical Room of Size 8m X 6m X 4m (h) & Battery Room of Size 7m X 6m X 4m (h).	L.S.	1					
1.2	Control Room building as per enclosed drawing of size 24m X 6 m comprising Instrumentation, Scada / Telecom Room of size 7m X 6m X 4m (h), Electrical Room of Size 7m X 6m X 4m (h) & Battery Room of Size 6m X 6m X 4m (h).	L.S.	3					
1.3	Control Room building as per enclosed drawing of size 31m X 6m comprising Telecom / Scada Room of size 7m X 6m X 4m (h), Electrical Room of Size 8m X 6m X 4m (h) & Battery Room of Size 6m X 6m X 4m (h).	L.S.	1					
Note- 1. Design shall be done based on largest room size with provision to discharge gas in affected room through directional valves including Room void, Ceiling Void & Floor void/ Cable trenches. While designing for highest room size, NOAEL in smallest room shall not be more the criteria as per NFPA 2001.								
<b>DESIGN, ENGINEERING, SUPPLY, ERECTION, TESTING &amp; COMMISSIONING OF FIRE DETECTION &amp; ALARM SYSTEM FOR CONTROL ROOM BUILDING</b>								
Intelligent addressable Fire Detection and Alarm System with fire alarm cum gas release panels which will also have provision to receive signals from LHD system in cable trenches, detectors, response indicators, cabling , cable trays, manual gas release switch , manual gas abort switch, hooter with flasher, manual call points etc. all complete as per approved scheme & enclosed drawings. Work shall be carried out as per MECON TS No. MEC/TS/05/28/081/11 & enclosed drawing. Manual call points shall be installed at strategic operating locations. Complete work of supply includes transportation to store and inspection charges but not limited to, the following items in accordance with relevant Specifications & relevant Data Sheets indicated in scope of work, SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT . Handling including lifting and transportation from Owner's/ Contractor's own storage yard to work site and installation & commissioning of FIRE DETECTION & ALARM SYSTEM including performance testing of the system, painting etc. supply of all consumables, manpower, equipment, etc. for completion of all works as per scope of work and as per drawings, specifications and instructions of Engineer-in-charge including servicing/ cleaning wherever required. The area of control room buildings to be protected are listed below:								
2.0								
2.1	Control Room building as per enclosed drawing of size 27m X 6 m comprising Instrumentation,Scada / Telecom Room of size 8m X 6m X 4m (h), Electrical Room of Size 8m X 6m X 4m (h) & Battery Room of Size 7m X 6m X 4m (h).	L.S.	1					
2.2	Control Room building as per enclosed drawing of size 24m X 6 m comprising Instrumentation, Scada / Telecom Room of size 7m X 6m X 4m (h), Electrical Room of Size 7m X 6m X 4m (h) & Battery Room of Size 6m X 6m X 4m (h).	L.S.	3					
2.3	Control Room building as per enclosed drawing of size 31m X 6m comprising Telecom / Scada Room of size 7m X 6m X 4m (h), Electrical Room of Size 8m X 6m X 4m (h) & Battery Room of Size 6m X 6m X 4m (h).	L.S.	1					
Note: Fire Alarm Panel & Gas Release Panel shall have provision to work on 230 V AC / 24VDC (Input Power supply ) as per availability of Input power at Stations.								

		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4						
				Price in INR				
4(VII)	FIRE PROTECTION SYSTEM	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)	
Sl. No.	Description of Item			In Figure	In Words	In Figure		
<b>A</b>	<b>FIRE ALARM &amp; CLEAN AGENT SYSTEM</b>							
	<b>SUPPLY, INSPECTION, LAYING, TERMINATION &amp; TESTING OF FRLS CABLES</b>							
3.0	Supply, inspection, laying, termination with fire alarm panel & testing of FRLS cables in control room for AC tripping, all required cable glands (Explosion proof double compression type), Relays and consumables like ferrules, clamps, lugs, sleeves, aluminium/SS tag plates etc., clamping, ferruling, glanding of the cables, termination at both ends, including shield/drain, providing/fixing of identifying tags and megger testing and loop testing.							
3.1	2 core 1.5 Sqmm copper cable	Mtrs	250					
<b>B</b>	<b>HAND APPLIANCES</b>							
	<b>CO2 TYPE FIRE EXTINGUISHERS</b>							
1.0	Supply & Installation of CO2 type fire extinguishers with steel cylinder with discharge valve as per MECON TS no. MEC/TS/05/28/081/25 and conforming to IS:15683. Extinguisher shall be painted with red enamel paint. Complete work of supply includes transportation to store and inspection charges but not limited to, the following items in accordance with relevant Specifications & relevant Data Sheets indicated in scope of work, SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT							
1.1	Capacity 4.5 kg.	Nos.	10					
2.0	<b>DRY CHEMICAL POWDER TYPE FIRE EXTINGUISHER (STORED PRESSURE TYPE)</b> Supply & Installation of Dry Chemical Powder type fire extinguisher as per IS: 15683-2006 & MECON TS no. MEC/TS/05/28/081/26 suitable for inverted operation with anticorrosive treatment and hydraulically tested to a pressure of 25 kg/ sq.cm. Extinguishers externally painted with red enamel and fixed to wall with brackets complete with internal charge and spanner complete. Complete work of supply includes transportation to store and inspection charges but not limited to, the following items in accordance with relevant Specifications & relevant Data Sheets indicated in scope of work, SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT							
2.1	9 Kg Capacity as per IS:15683	Nos.	10					
2.2	75 Kg Capacity Trolley Mounted Type as per IS :16018	Nos.	1					
3.0	<b>CLEAN AGENT TYPE FIRE EXTINGUISHER</b> Providing & fixing clean agent type fire extinguisher suitable for inverted operation with anticorrosive treatment and hydraulically tested as per NFPA 2001. The product should be UL /LPCB/VDS/FM listed. The gas shall be stored at a pressure of not less than 15 bar and range shall be 2-5 meter.							
3.1	2.0 Kg Capacity	Nos.	5					
4.0	<b>FIRE BUCKETS</b> Supply and installation of galvanised steel set of 4 fire buckets (9 Ltrs. Cap) as per technical specification no. MEC/TS/05/28/081/03 and confirming to IS: 2546 1974 RA2000 & MECON TS No MEC/TS/05/28/081/03. Buckets shall be painted with red enamel paint and fixed to suitable location. Complete work of supply includes transportation to store and inspection charges but not limited to, the following items in accordance with relevant Specifications & relevant Data Sheets indicated in scope of work, SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT	Nos.	5					
<b>C</b>	<b>SAFETY EQUIPMENTS</b>							
1.0	<b>SUPPLY OF FIRST AID &amp; SAFETY EQUIPMENT</b> Complete work of supply includes transportation to store and inspection charges but not limited to, the following items in accordance with relevant Specifications & relevant Data Sheets indicated in scope of work, SCC, drawings, specification and instructions of EIC and as per all provisions of the CONTRACT DOCUMENT							
1.1	Supply, Installation, Testing and Commissioning of Electrical/Electronic Siren( 1 Km range Unidirectional) & Interfacing with Fire Alarm Panel/Gas Release Panel	Nos.	5					

		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4					 MECON LIMITED	
				Price in INR				
4(VII)	FIRE PROTECTION SYSTEM	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)	
Sl. No.	Description of Item			In Figure	In Words			In Figure
<b>A</b>	<b>FIRE ALARM &amp; CLEAN AGENT SYSTEM</b>							
	Hand operated siren IS-6194-1971 RA- 2006	Nos.	5					
1.2								
	Safety Helmet - IS-2925-1984 RA2000	Nos.	10					
1.3								
	Stretcher with blanket- IS-4037-1967 RA-2001.	Nos.	5					
1.4								
	First Aid Box	Nos.	5					
1.5								
	Rubber Hand Gloves IS-4770 –1991 RA-2001	pair	10					
1.6								
	Cotton Hand Gloves	pair	50					
1.7								
	Red & Green flag for fire drill	pair	5					
1.8								
	Portable Gas Detectors (PESO Approved)	Nos.	5					
1.9								
	Explosive meter (PESO Approved)	Nos.	5					
1.10								
	Safety Torch (PESO Approved)	Nos.	5					
1.11								
	Trolley to carry the above items nozzles & branch pipes etc.	Nos.	5					
1.12								
	Ear Muff	Nos.	10					
1.13								
	Ear Plug	Nos.	50					
1.14								
	Resuscitator	Nos.	5					
1.16								
	Self contained breathing apparatus with one spare cylinder (30 min. capacity)	Nos.	5					
1.17								
	PCV Suit	Nos.	5					
1.18								
	Water Jel Blanket	Nos.	5					
1.19								

		SCHEDULE OF RATES FOR LAYING & CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE) Bid Doc. No.: 05/51/23UU/IGGL/001-I-4					 MECON LIMITED	
4(VII) FIRE PROTECTION SYSTEM				Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)
Sl. No.	Description of Item	Unit	Quantity			Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
				In Figure	In Words	In Figure		
A	<b>FIRE ALARM &amp; CLEAN AGENT SYSTEM</b>							
1.20	Wind Shock	Nos.	5					
<b>Note:</b>				Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)				
(i) The bidder must indicate currency(ies) against each quoted item of the SOR.								
(ii) The total amount shall also be given by the bidder in the quoted currency(ies).								
Place	:			Signature of Authorised Signatory				
Date	:			Name :				
Tender No.:				Designation :				
Offer No. & Date :				Seal :				

		<p style="text-align: center;"><b>SCHEDULE OF RATES FOR LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b></p> <p style="text-align: center;"><b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b></p> <p style="text-align: center;">Bid Doc. No.: 05/51/23UU/IGGL/001-I-4</p>						
Price in INR								
4(VIII) <b>ELECTRICAL WORKS</b>								
Sl. No.	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST)		Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).	Service Accounting Codes (SAC)	
				In Figure	In Words			
1.0	Supply, installation, testing, commissioning of power distribution board (PDB) and Lighting Distribution Board (LDB) :							
1.1	415 V, 30 KA for 1 Sec single front type indoor PDB-1 to receive input power at DT & IP station consisting of bus bar chamber, cable alley, 250 Amp incomer TPN MCCB (with LSIG & Shunt trip) & 5 nos. 100 Amp TPN MCCB, 5 nos. 63 Amp TPN MCCB, 5 nos. 32 Amp TPN MCB, 8 Nos 20/16 Amp TPN MCB & 10 Nos 20/16 Amp DP MCB outgoing complete with wiring, indication lamp, ammeter, voltmeter, MFM (Multi Function Meter) etc including all labour and materials with operating mechanism, all accessories, mandatory spares as per specification, auxiliaries etc complete in all respects as specified in technical specification, data sheet & SLD no. MEC/23UU(Ph-II)/05/E9/E/1081A. All MCCBs shall have LSIG protection.	Nos.	1					
1.2	415 V, 30 KA for 1 Sec single front type indoor PDB-2 for SV terminals consisting of bus bar chamber, cable alley, 160 Amp incomer TPN MCCB (with LSIG & Shunt trip) & 4 nos. 100 Amp TPN MCCB, 5 Nos 63 Amp TPN MCCB, 5 nos. 32 Amp TPN MCB, 5 Nos 20/16 Amp TPN MCB & 5 Nos 20/16 Amp DP MCB outgoing complete with wiring, indication lamp, ammeter, voltmeter, MFM (Multi Function Meter) etc including all labour and materials with operating mechanism, all accessories, mandatory spares as per specification, auxiliaries etc complete in all respects as specified in technical specification, data sheet & SLD no.MEC/23UU(Ph-II)/05/E9/E/1081B. All MCCBs shall have LSIG protection.	Nos.	4					
1.3	Spares for LT Panel based on SLD no. MEC/23UU (Ph-II)/05/E9/E/1081 (A-F) for 2 years operation & maintenance as per the annexure in specification.	Lot	1					
2.0	<b>LIGHTING DISTRIBUTION BOARDS</b>							
	Supply, installation, testing, and commissioning of 415V/240V lighting/power panels, Surface/Recess mounting type in weather/flame proof (with hinged cover) sheet steel enclosure of approved make having 4 Pole MCCB(LSIG)/RCBO as incoming and SP/DP/TP MCB (9KA type) for out going circuit complete with wiring,indication lamp, ammeter etc including all labour and materials as per specification and the direction of Engineer-in-charge.							
2.1	Surface/Recess mounted Lighting Panel (VE-LDB) for Building Lighting consisting of 2 nos. 32 Amp (100mA sensitivity) 4 Pole RCBO as incomer(Grid-Invertor supply) along with two isolated Cu busbar and 10 Nos. 10A DP MCBs & 10 Nos. 16A DP MCBs as out goings complete with ammeter, indication lamp etc. Refer SLD no.MEC/23UU(Ph-II)/05/E9/E/1081C.	Nos.	5					
2.2	Surface/Recess mounted Building Power Point Panel (PP-LDB) for Building Power Points, AC's etc for IP station consisting of 100 Amp (100mA sensitivity) 4 Pole RCBO as incomer and 10 nos. 20A DP MCB & 8 nos. 16A DP MCBs as out goings complete with indication lamp etc. Refer SLD no.MEC/23UU(Ph-II)/05/E9/E/1081D.	Nos.	1					
2.3	Surface/Recess mounted Building Power Point Panel (PP-LDB) for Building Power Points, AC's etc for SV stations consisting of 63 Amp (100mA sensitivity) 4 Pole RCBO as incomer and 10 nos. 20A DP MCB & 10 nos. 16A DP MCBs as out goings complete with indication lamp etc. Refer SLD no.MEC/23UU(Ph-II)/05/E9/E/1081E.	Nos.	4					
2.4	Outdoor Lighting Panel (O-LDB) consisting of 80 Amp (100mA sensitivity) 4 Pole RCBO as incomer and 5 nos. 20/16A TPN MCBs & 5 nos. 20A DP MCBs as out goings complete with Contactor, timer, A/M switch, PB with timer and 5 Nos. 20/16 Amp DP MCB, 5 Nos. 20A TPN MCB without timer etc indication lamp. Refer SLD no.MEC/23UU(Ph-II)/05/E9/E/1081F.	Nos.	5					
2.5	Flame Proof Feeder Pillar (Structure Mounted) for Outdoor Lighting 80 Amp (100mA sensitivity) 4 Pole RCBO as incomer and 12 nos. 20/16A TPN MCBs & 5 nos. 20A SPN MCBs as out goings.	Nos.	5					
3.0	Supply, installation, testing & commissioning of 1600VA sine wave Inverter system with 2x150Ah Battery backup tubular type battery for critical lighting in control room building & outdoor area (Make Inverter: Su-Kam, Genius, Luminus, Microtek, Battery: Exide, Amaraja).	Nos.	5					
4.0	Supply, installation, testing, commissioning of the complete earthing and lightning protection system, earth electrodes/ pit, earth main ring, earthing of electrical equipments, instrument panels, field instruments, process equipments and pipes/ flanges including all associated civil work with all material and labour as per specification and drawings approved by the Owner/Consultant.							
4.1	Earth Pits- GI PIPE Electrode with 6 mm thick chequered plate cover	Nos.	45					
4.2	Earth Pits- Copper plate Electrode with 6 mm thick chequered plate cover	Nos.	10					
4.3	GI Strip (50X8) mm	Mtr	800					



4.4	GI Strip (25X3) mm	Mtr	2000				
4.5	Copper Strip (25X3) mm	Mtr	250				
4.6	GI Wire (8mm- solid), Cu- wire rope (Min 8 mm dia solid) and all balance earthing material including copper strip (50 mm x 2 mm thick) jumper for flanges etc. as per the specification for all stations.	Lot	1				
4.7	GI lightning rod 16 mm dia. 3000 mm long air termination rod including supply of all mounting hardware (IEC 62305 approved) etc. complete as per approved drawings, specifications and directions of Engineer-In-Charge.	Set	5				
4.8	Advance maintenance free earthing system with 3mtr earth electrode of low carbon steel with 250 micron copper coating with carbon based backfill compound (Resistivity of compound shall be less than 1 ohm-m) as per IS 3043/IEEE-80.	Nos.	45				
5.0	Supply, laying, termination, testing and commissioning of 1.1kV grade XLPE insulated, PVC sheathed, FRLS power and control cables (conforming to IS:7098 and specification) of following sizes in trenches/ excavated under ground trench /trays, pulling through pipes and its proper sealing, cutting of paved area, roads etc.						
5.1	3.5x 240 mm2 A2XFY	Mtr	100				
5.2	3.5x 120 mm2 A2XFY	Mtr.	750				
5.3	3.5x 95 mm2 A2XFY	Mtr.	500				
5.4	3.5x 70 mm2 A2XFY	Mtr.	750				
5.5	3.5x 35 mm2 A2XFY	Mtr.	500				
5.6	3.5x 25 mm2 2XFY	Mtr.	250				
5.7	2x35 mm2 2XFY	Mtr.	250				
5.8	3.5x10 mm2 2XWY	Mtr.	150				
5.9	4x 6 mm2 2XWY	Mtr.	250				
5.10	4x 4 mm2 2XWY	Mtr.	750				
5.11	4x 2.5 mm2 2XWY	Mtr.	3000				
5.12	2x 4 mm2 2XWY	Mtr.	500				
5.13	2.5 Sqmm Flame Retardant Low smoke(FRLSH) PVC Insulated Building wire (90mtr roll)	Nos.	2				
5.14	4 Sqmm Flame Retardant Low smoke(FRLSH) PVC Insulated Building wire (90mtr roll)	Nos.	2				
5.15	6 Sqmm Flame Retardant Low smoke(FRLSH) PVC Insulated Building wire (90mtr roll)	Nos.	1				
6.0	Supply, installation, testing, commissioning of lighting fixtures complete with mounting bracket, flame proof/non flame proof, control gear box as per the type of fixture, lamps, 4 way junction boxes etc. including civil work with pipe inserts for cables and connecting work, with all material and labour as per specifications, drawings and instruction of Engineer-in-charge. Work to be completed in all respects.						

6.1	Street lighting, integral flame proof well glass fixture (CMIFR approved for Zone-1/2 gas group IIA & IIB) with 72 W LED luminaire with flame proof control gear Model no. FLPW-1095 of Baliga make or equivalent)	Nos.	60				
6.2	Street lighting Non flame proof luminaire (lighting fixture : Type LSTP-45-CDL of M/s CG make or equivalent, with 45W LED).	Nos.	63				
6.3	Non flame proof Integral flood lighting fixture (for 72W LED) on building/ structure/pole, lighting fixture type : LSFN-72-CDL of M/s CG make or equivalent	Nos.	6				
6.4	Flame proof Integral flood lighting fixture (for 150W LED) on building/ structure/pole, lighting fixture type : FLPW-2595 of M/s Baliga make or equivalent	Nos.	10				
6.5	Non flame proof bracket mounted integral LED lighting fixture on building/ structure, lighting fixture type : LSTP-45-CDL of M/s CG make or equivalent	Nos.	15				
6.6	Electric Illuminated Station detail board (6ftx3ft) alongwith mounting structure (Station detail will be decided in detail engineering).	Nos.	5				
6.7	Street lighting pole 6mtr high GI octagonal pole (Type BOP-6030 of Bajaj make or equivalent) complete with bracket, GI clamps, FLP Cable glands, flame proof & weather proof (IP-55) junction boxes (4 way) as per standard drawing (MEC/SD/05/E9/77/04) & specification (MEC/TS/05/E9/077B).	Nos.	139				
6.8	High Mast Lighting system on 20m high pole consisting for 8 nos. of lighting fixtures (200W LED Lamp Type LFLN-120-CDU/60 of CG make or equivalent) as per standard datasheet No. MEC/DS/05/E9/077A with feeder pillar (FLP Type).	Nos.	1				
7.0	<b>SUPPLY,ERECTION, TESTING AND COMMISSIONING</b>						
	Supply, installation, Inspection,Transportation to site, erection on pole, testing and commissioning of 11 kv/433 V outdoor type,3Ph,50Hz,copper wound, Dyn11, ONAN distribution transformer complete with all accessories as per REC specification 11/1976 and/or IS 2026/1180, and latest amendments there of and first oil filled. Termination arrangement for HV side : HT bushing & LV side Cable end box/Terminal box of following rating (Make of Transformer shall be approved from State Electricity Board/MECON.)						
7.1	63KVA	Nos.	4				
7.2	100KVA	Nos.	1				
7.3	160KVA	Nos.	1				
7.4	250KVA	Nos.	1				
8.0	Supply Erection, testing & commissioning of all the items listed at (Sl. No. 8.1 to 8.6 below) including transformer, all miscellaneous materials required, digging, trenching, backfilling, compaction, making of foundations/ pedestal, fixing the fencing and gate, spreading of blue granite material, etc as required to complete the HT & LT installation as per the tender. <b>(All electrical equipments shall be approved from State Electricity Board/MECON.)</b>						
8.1	Double pole Structure with MS joist ISMB 200 x 100 mm, 9 m long complete with 100 x 50 mm MS channels of required length and size : 11 kv, 3 Ph, horizontal Gang operated Air Break switch, DO fuse, lightning arrestors of suitable ampere rating, pin insulators, disc insulators, operating rod, handle, locking arrangement, copper wire for jumper connection, stay set complete with all accessories etc as required inclusive of paint (two coats of primer & two coats of final aluminum paint) and concrete foundation.	Set	5				
8.2	Supply, erection and commissioning of 11 kv, ACSR weasel conductor as required for stringing between State Electricity Board Double pole and consumer double pole structures.	Mtr.	750				
8.3	Outdoor type dust & weather proof sheet steel (2 mm thick) enclosed MCCB of following rating for mounting on wall or pedestal. 250A, 415V, 3 Pole & Neutral AC-23 duty and suitable for termination of 3.5 x 120/95 sq.mm A2XFY cable on incomer terminals and outgoing terminals.	Nos.	5				
8.4	Chain link fencing of (height 2.5 m) for the sub station area with ISA 50 x 50 x 6 mm angle and 4 mm thick welded wire mesh and 1 no. gate ( 3x2.5 mtr.) complete with all material, welding and labour.	Mtr.	100				
8.5	40 mm blue granite metal for spreading in the fenced area .	M3	75				
8.6	3Cx 150 Sqmm, 11 KV (UE) HT Cable, XLPE insulated and PVC sheathed, Screened, Armoured as per MECONs specification.	Mtr.	150				
9.0	Supply, installation, testing & commissioning of point wiring as per details in construction drawing & specification includes PVC conduits in ceiling, complete wiring including flexible wire (FRLSH PVC), switch boxes & switches (ANCHOR, ROMA make or equivalent), Multi strand Flexible FRLSH PVC insulated copper conductor wires/cables for following items. (Wiring from DB to Switchboard shall be included in the point wiring)						

	Light Point						
9.1	Surface/ recess mounted LED light fixture with LED lamp (type LCTL-18 -CDL of CG make or equivalent).	Nos.	325				
9.2	Industrial Flame proof fluorescent lamp fitting with LED lamp (type EXTN2LT8-20 of CG make or equivalent).	Nos.	20				
9.3	Integral LED Post top lantern Non flame proof luminaire (lighting fixture : Type LPTO-40/CDL of M/s CG make or equivalent on post top at Main Entrance gate of station with all mounting arrangements).	Nos.	10				
9.4	Exhaust fan (Industrial type 300/450 mm) with louvers,950 rpm,55watt.	Nos.	25				
9.5	Flame Proof (CMIFR approved) 12" Exhaust Fan.0.25HP motor,1440 rpm. (Preferred Make: Baliga, FCG, CGL, Prompt)	Nos.	10				
9.6	Socket outlet (5/15 Amp combination) of ANCHOR ROMA make or equivalent	Nos.	57				
9.7	20 Amp sheet steel enclosed industrial type socket with 20 Amp DP MCB for AC.	Nos.	18				
9.8	Ceiling fan with electronic regulator ( Energy efficient, 50W, 1200 mm sweep)	Nos.	10				
9.9	Wall mounted fan with electronic regulator ( Energy efficient, 50W, 400 mm sweep, 1300 rpm) etc complete in all respect for wall mounting	Nos.	18				
10.0	<b>Junction Boxes</b>						
10.1	IP-55 weather proof, structure/surface mounted junction box with canopy with 4 Sqmm terminals, cable glands & all other accessories required for termination of cables (4Way).	Nos.	25				
10.2	FLP, IP-55 weather proof, structure/surface mounted junction box with 4 Sqmm terminals with cable glands & all other accessories required for termination of cables (2Way).	Nos.	10				
11.0	<b>Air Conditioners</b>						
11.1	Supply, Installation, testing and commissioning of latest model (5 stars BEE certified inverter AC) min 1.8 T industrial split AC complete with remote, 5 KVA stabilizer, 12 Hr timer, MS Stand for outdoor unit etc.	Nos.	18				
12.0	<b>Flame Proof Welding Socket</b>						
12.1	Supply, erection and commissioning of Flame proof type 63 Amp. Welding socket	Nos.	5				
13.0	Supply of flame proof type portable type emergency light fed by a self- contained SMF battery and charger operating on input supply 240 V AC. (Preferred make: Sudhir or equivalent)	Nos.	5				
14.0	Supply and laying of following sizes of class 'B' G.I.Pipe in required length fixed on steel, concrete or similar structure, laid in trenches, ready to be buried in concrete including cutting, threading, bending and similar works, supply of clamps, small iron structures, spacers and installation of seats, plugs, bushings etc. small civil works, including all labour and materials complete as per approved drawings and directions of Engineer-in-Charge.						
14.1	50 mm NB	Mtr.	250				
14.2	80 mm NB	Mtr.	250				
14.3	100 mm NB	Mtr.	750				
15.0	Supply, Installation, Erection of following Hot Dip Galvanized Ladder/Perforated Type cable trays (as per IS 2629) including bends, tee, crosses, horizontal and vertical splices etc. as required including supply of all G.I hardware, all labour and material as required as per standard drawings, specification and direction of Engineer-in-charge						

	Ladder type, made from 50mm height and 2.5 mm thick sheet steel & galvanized (86 microns) of following sizes.						
15.1	150 mm wide	Mtr.	250				
15.2	300 mm wide	Mtr.	500				
	Perforated type, made from 50mm height and 2.5 mm thick sheet steel & galvanized (86 microns) of following sizes.						
15.3	150mm wide	Mtr.	250				
15.4	300mm wide	Mtr.	500				
16.0	<b>Erection Material</b>						
16.1	Supply, Fabrication and erection of MS base frame support for switch gear and bracket for misc. electrical equipment, cable and cable tray support out of roled MS section.pipes,plates etc including welding, bolting, re-venting, supply of necessary anchor bolts and grouting etc supply of paints applying one coat of anti rust primer two finish coats of approved synthetic enamel paints including bracking walls, floors etc for structure as required including supply of all GI hardware materials including all labour and materials complete as required and the direction of Engineer-in-charge for all stations.	Lot	1				
17.0	Supply and installation of the following including the supply of necessary clamp, bolts, rawl plugs etc. breaking and making good of walls, if required, and including all labour and materials complete as per directions of Engineer-In-Charge, applicable standards and Indian Electricity rules.						
17.1	Shock hazard charts complete with frame and glass	Nos.	10				
17.2	First Aid Boxes	Nos.	10				
17.3	Carbon-di-oxide(CO2) type fire extinguisher 4.5 Kg capacity Complete with gunmetal valve conforming to IS : 3224 With ISI mark , Discharge horn with bend & wall fixing Bracket With Mtg. Test certificate	Nos.	15				
17.4	Caution boards (Danger, High Volatage) including supply of necessary clamps, bolts and other hardware.	Nos.	15				
17.5	Single Line Diagram complete in glass frame.	Nos.	5				
18.0	Supply of Tools and Instrument as per Annexure -A of scope of work.	Lot	1				
19.0	Supply and laying of Insulating Mats 11kV grade (as per IS:15652 - 2006) of 1000mm width, required for maintenance of electrical equipment in substation as required including cutting to required shape in running length and including all labour and materials etc. complete and as per directions of Engineer-In-Charge as per applicable Indian or International standards and Indian Electricity Rules.	Mtr.	100				
20.0	Supply and installation of electrical accessories including, cable tags, cable marker, MCT blocks of suitable size for cable entry in Electrical rooms/building, nickle plated lugs, double compressed brass cable glands,brass adaptor/reducers/nipples, fixing of metallic anchor fasteners for supporting of cable trays and misc. electrical switchgear including all labour and materials complete as required and as per directions of Engineer-In-Charge for all stations.	Lot	1				
21.0	<b>Telephone &amp; LAN :</b>						
21.1	Supply, Installation, testing and commissioning of telephone sockets (Piano reed Type) in recess PVC conduit including PVC conduit,telephone socket,cable,accessories etc as required.	Nos.	40				
21.2	Supply, Installation, testing and commissioning of LAN sockets (Piano reed Type) in recess PVC conduit including PVC conduit,telephone socket,cable,accessories etc as required.	Nos.	40				
21.3	supply of 10 pairs,0.61mm, jelly filled/aerial self supporting armoured Telephone Cable, including accessories etc as required.	Mtr.	800				
21.4	supply of 2 pairs,0.5mm, self supporting unarmoured Telephone Cable, including accessories etc as required.	Mtr.	500				
21.5	Supply of UTP cable (CAT 6), Make : D Link/Amp/Lucent	Mtr.	800				

21.6	Main Distribution Frame - 20 pair	Nos.	5				
21.7	Manged LAN switch with single incomer and 8 nos out going port complete in all respect.	Nos.	4				
21.8	Managed LAN switch with single incomer and 16 nos out going port complete in all respect.	Nos.	1				
22.0	<b>Burried Trench</b>						
	Excavation to required width and depth (in all types of soil including rock cutting, jungle / debris clearing wherever required along the cable route) filling with 150 mm sand above and below cables and good quality approved bricks (75 mm thick) covering the cables through out the trench, back filling (after cable laying), and finally compacting as per tender specification and approved drawings, including one run of warning tape.						
22.1	300mm wide x 1000mm depth	Mtr.	1300				
22.2	600mm wide x 1000mm depth	Mtr.	500				
22.3	1000mm wide x 1000mm depth	Mtr.	250				
23.0	<b>Automatic Voltage Regulator</b>						
23.1	Supply, installation, testing, commissioning of 80KVA Automatic Voltage Regulator (AVR), Outdoor duty (IP-55 & IP-66 control gear) along with suitable rating of Incomer Voltage Range 320V to 490V with MCCB and outgoing Voltage 433V $\pm$ 3% with metallic enclosure(IP-55) & MCCB,including two nos Change Over switch(COS) of rating 250A ,AC23 duty complete in all respect. AVR shall be installed outside in structural cover shed over the plinth to protect the AVR from rain & dust. Successful Bidder shall submit all the drawing for AVR mounting along with shed. All cable terminations including supply og glands shall be in the scope of the Bidder.	Set	4				
23.2	Supply, installation, testing, commissioning of 160KVA Automatic Voltage Regulator (AVR), Outdoor duty (IP-55 & IP-66 control gear) along with suitable rating of Incomer Voltage Range 320V to 490V with MCCB and outgoing Voltage 433V $\pm$ 3% with metallic enclosure(IP-55) & MCCB,including two nos Change Over switch(COS) of rating 250A ,AC23 duty complete in all respect. AVR shall be installed outside in structural cover shed over the plinth to protect the AVR from rain & dust. Successful Bidder shall submit all the drawing for AVR mounting along with shed. All cable terminations including supply og glands shall be in the scope of the Bidder.	Set	1				
24.0	Supply of rust, fire & dust proof light-weighted step ladder of Aluminium suitable for 6 Mtr street lighting poels.	Nos.	5				
25.0	All works relating to statutory approvals, liaisoning from competent authority like Electrical Inspectorate, Renewal energy athority, signing of Power Purchase Agreement for Solar PV system, CEA, DGMS, SEB etc including carrying out of all required modifications in design / Manufacturer / Installation to meet the requirement of Indian Electricity rules and other statutory regulations in force, carrying out necessary paper work and liaison with the authorities to obtain all necessary clearances for charging of installation as per relevant national standards. However the official fees towards the approvals shall be reimbursed by the client for all stations.	LS	1				
<b>Note:</b>	(i) The bidder must indicate currency(ies) against each quoted item of the SOR. (ii) The total amount shall also be given by the bidder in the quoted currency(ies).						
				<b>Total Amount of quoted price (inclusive of all applicable taxes &amp; duties except GST (CGST&amp;SGST/UTGST or IGST).</b>			
Place	:			Signature of Authorised Signatory			
Date	:			Name :			
Tender No.:				Designation :			
Offer No. & Date :				Seal :			

 IGGL		<b>SCHEDULE OF RATES FOR            LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR            SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>  <b>AGARTALA - TULUMURA FEEDER LINE (PIPELINE SECTION-12), 12" x 85.836 Km (TRIPURA STATE)</b> <b>Bid Doc. No.: 05/51/23UU/IGGL/001-i-4</b>						
SI. No.	Description of Item	Unit	Quantity	Unit Rate inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		Price in INR		Service Accounting Codes (SAC)
				In Figure	In Words	Total Amount inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).		
<b>WATER SUPPLY WORKS</b>								
<b>WS-1</b>	<b>BORE WELL</b>							
a)	Supply,laying,drilling and commissioning of G.I.Bore well of 150 mm diameter and up to 50 m depth including submersible pump with all accessories, panel, wiring and all other works required to make it operational all complete in all respects as per scope of work and directions of the Engineer-in-charge.	Nos.	5					
b)	Extra over and above for more than 50 M depth.	RM	50					
	Note:							
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials including pipes, water meter, valves, boring, priming, cabling, pumps, clearing, earth work, etc. with all bye works and sundry works and consumables.							
<b>WS-2</b>	<b>HAND PUMP</b>							
	Supply, providing, placing in position Deep Well hand pump of approved quality & make ( as per IS 9301 and installation as per IS 11004 Part-1 ) for 40 mm dia GI pipe (medium class) complete with all accessories, fittings including providing and placing in position filter of 40 mm dia GI pipe (medium class) with brass strainer of approved quality. Boring shall be 100 mm dia including casing pipe up to required depth for Hand pump in all soils and tested up to a depth of 50.0 m complete in all respects as per scope of work and directions of the Engineer-in-charge.	Nos	5					
	Note:							
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials including pipes,boring, priming, clearing, earth work, etc. with all bye works and sundry works and consumables.							
(a)	Extra over and above 50 m Depth.	RM	50					
	Note:							
	1. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials including pipes,boring, priming, clearing, earth work, etc. with all bye works and sundry works and consumables.							
<b>Note:</b>								
(i) The bidder must indicate currency(ies) against each quoted item of the SOR.								Total Amount of quoted price (inclusive of all applicable taxes & duties except GST (CGST&SGST/UTGST or IGST).
(ii) The total amount shall also be given by the bidder in the quoted currency(ies).								
Place	:							
Date	:							
Tender No.:	_____							
Offer No. & Date :	_____							



**SCHEDULE OF RATES**

Annexure-I to Corrigendum 1

<b>SUMMARY OF PRICES (To be submitted with Priced part of the offer)</b>			
<b>PROJECT: LAYING &amp; CONSTRUCTION OF STEEL GAS PIPELINE AND TERMINALS ALONG WITH ASSOCIATED FACILITIES FOR SECTION- 12 OF NORTH EAST GAS GRID (NEGG) PROJECT</b>			
<b>Bid Doc. No.: 05/51/23UU/IGGL/001-i-4</b>			
Sl. No.		Price in INR	
		(In Figures)	(In Words)
1	Total amount of quoted price for Mainline Works SOR		
2	Total amount of quoted price for Temporary Cathodic Protection Works SOR		
3	Total amount of quoted price for Corrosion Monitoring System Works SOR		
4	Terminal Works		
4 I)	Total amount of quoted price for Piping & Mechanical Works SOR		
4 II)	Total amount of quoted price for Civil works SOR		
4 III).	Total amount of quoted price for Structural works SOR		
4 IV).	Total amount of quoted price for Architectural works SOR		
4 V).	Total amount of quoted price for Instrumentation Works SOR		
4 VI).	Total amount of quoted price for Telecommunication Works SOR		
4 VII).	Total amount of quoted price for Fire Protection Works SOR		
4 VIII).	Total amount of quoted price for Electrical Works SOR		
4 IX).	Total amount of quoted price for Water Supply Works SOR		
5	Net Total Amount (inclusive of all applicable taxes & duties excluding GST (CGST&SGST/UTGST or IGST)) [1+2+3+(4-I)+(4-II)+(4-III)+(4-IV)+(4-V)+(4-VI)+(4-VII)+(4-VIII)+(4-IX)]		
6	<b>GST (CGST&amp;SGST/UTGST or IGST) @ 18% on net Total Amount mentioned at Sl. No. 5 above.</b>		
7	<b>Total Amount (Sl. No. 5 + 6)</b>		
Notes:	<b>1) The total amount shall also be given by the bidder in the quoted currency(ies).</b> <b>2) In case, any item is covered in scope of work but is not present in Schedule of Rates (SOR), it will be assumed that bidder has included cost implication of those items in their total price.</b>		
Place :	_____	Signature of Authorised Signatory	
Date :	_____	Name :	
Tender No.:	_____	Designation :	
Offer No. & Date :	_____	Seal :	