

CITY GAS DISTRIBUTION PROJECT IN EAST & WEST GODAVARI DISTRICTS OF ANDHRA PRADESH
LAYING OF UNDERGROUND PE PIPELINES & PROVIDING DOMESTIC PNG CONNECTIVITIES IN EAST & WEST GODAVARI GEOGRAPHICAL AREAS
TENDER NO. : GGPL/KKD/C&P/MDPE/2520/07/VS
Schedule of Rates (SOR)

Item No.	Activity	Unit	QUANTITY	Unit Rate all (inclusive except GST) in Rs.	Total amount (all inclusive except GST) in Rs.
1	<u>MDPE PIPE LAYING</u>				
	Laying of MDPE Pipeline of PE100 grade with SDR 11 having the following sizes by trenching in all kinds of soil, asphalt roads, concrete pavements/roads, all kind of pathways etc in East & West Godavari Districts of Andhra Pradesh. The trenching can be made by using mechanical excavator /Moling machine/HDD or manually depending upon the site condition. The depth of trench should meet to ensure minimum 1000 mm cover from top of the pipeline to natural ground level at that location. The following are in the scope of this item:				
a)	Loading, Shifting, Unloading of MDPE pipes issued by GGPL as free issue material from GGPL designated storeyard within GA limit but upto maximum 60 Km radius from the working site and stacking as per requirement at working site/Bidder's stock yard.				
b)	Trenching of the required width and depth in all kind of the surface.				
c)	Uncoiling, stringing, laying and alignment of the MDPE pipes of the required sizes in trench.				
d)	Joining of the pipes by using Electro-Fusion techniques by qualified personnel with proper tools,kit and tackles.				
e)	Supply and fixing all kind of fittings/accessories such as PE Bends,Couplers,end caps, Tee,Reducer, PE to GI Transition fittings, Saddle Tapping of all sizes i.e 125 x 90mm , 125 x 63 mm , 125 x 32 mm , 125 x 20 mm , 90 x 63 mm , 90x 32 mm, 90x 20 mm, 63x 32 mm, 63x 20 , 32 x 20 mm and tee tapping of sizes 125 mm , 90 mm , 63 mm, 32mm , 20 mm as required on new PE pipeline, charged / uncharged existing pipeline network, supplying & laying of Warning Mat and any other fittings required to make complete pipeline work.				
f)	Item also includes dewatering from the trench before/after laying of the pipes if required without creating any problems to the surrounding areas.				
g)	Preparation of the route and connectivity drgs for individual house layout or society etc.				
h)	During the execution of the work, construction area need to be barricaded to ensure proper safety. Proper hard barricades / tapes/ reflectors as required to be installed at site as per Instruction of EIC/ site Engineer/ authorities.				
i)	The above item also include liasioning with state authorities / owners : In principle permission for laying of the pipeline from the concerned land owning authority (i.e. Municipal Corporations etc..) or the concerned RWA/society shall be obtained by GGPL. However all the liasioning during the pipeline laying execution with any authorities, local officials, traffic police, police, BSNL etc. and any other utility companies / agencies such OFC operators etc are in the scope of the contractor. This scope also includes liasioning with RWA /Society / individual land owners for smooth execution of pipeline laying. Repairing/replacement of all damaged utilities if any, and payment of any compensation (if claimed by owner/other utility agencies) is in scope of the contractor.				
j)	After laying of Pipeline, back filling with available soft soil upto depth of minimum 300mm, placing brick(Supply & Laying of Brick will be paid separately), further back filling of soft soil, placing warning mat of 0.5 mm thk and 250 mm wide with traceability provision (as per attached specifications) maximum at a depth of 400mm from Ground Level, as per given drg or as per instruction of GGPL/Consultant, dressing the backfilled and compacted soil and backfilling & compaction of remaining trench depth with available soil.Removal of any excess soil is also in the scope.				
k)	Once pipeline laying is completed, flushing and pneumatic testing at 6 Kg/cm ² for 4 hours is required to be carried out as per the details specification . After testing Nitrogen purging is required to be done for complete pipe length as per the specification (except for item 2.0 & item 3.0)				

l)	Carrying out all works required to make the PE pipeline ready for commissioning / Gas-In as per specification. Making connection with the existing MDPE pipeline of sizes ranging from 125 mm NB to 32 mm NB laid by others at one end and joining TF at other end. Supply of TF is in the scope. of Commissioning the pipeline as per specification & approved procedure , providing tools & tackles, instruments, manpower and other accessories as per instructions of Engineer - In -Charge.				
m)	Final clean-up of construction area used for laying of pipeline works including disposal of debris and surplus material to designated disposal areas. (which is to be identified by the contractor)				
n)	Reconciliation of materials, handing over the completed Pipeline Network to GGPL for their operation and submission of As-built Drgs and other related documents as per contract.				
o)	Core cutting in basement walls , supplying and grouting of GI sleeves for PE pipe laying and repair of the core cutting hole				
1.10	Laying of PE pipelines by mechanical excavator /Moling machine/HDD or manually depending upon the site condition				
a)	20 mm PE 100 pipe	Meters	1000	700.00	7,00,000.00
b)	32 mm PE 100 pipe	Meters	5000	500.00	25,00,000.00
c)	63 mm PE 100 pipe	Meters	2500	600.00	15,00,000.00
d)	90/125 mm PE 100 pipe	Meters	1500	650.00	9,75,000.00
1.20	Same as item 1.10 above but by trenching by open cut only in all types of rocks using mechanical means such as rock breakers / excavators (blasting prohibited) etc. Scope also includes disposal of rocky earth and providing soft soil / sand for bedding and all around PE pipeine of minimum 150 mm thickness. The supply of the soft soil / sand is also in scope of this particular item.				
a)	20 mm / 32 mm PE 100 pipe	Meters	50	700.00	35,000.00
b)	63 mm PE 100 pipe	Meters	50	700.00	35,000.00
c)	90/125 mm PE 100 pipe	Meters	50	800.00	40,000.00
2.00	MDPE TO GI CONNECTIVITY FOR INDIVIDUAL HOUSES - FOR 20 mm & 32 mm upto 10 m length excluding asphalt road crossing width	Nos.	50	7,500.00	3,75,000.00
2.10	Laying of MDPE Pipeline of sizes 20 mm & 32 mm upto 10m length (excluding asphalt road crossing width from road edge to road edge covered separately under item 3.00 in case road crossing is required for connectivity) for MDPE pipeline connectivity between GI and MDPE piping.The following works are additionally included in the scope of this item:				
a)	Excavation and Making of two no of pits of required size and depth up to 1.5m (excavation for depth beyond 1.5m shall be paid extra over and above this item through separate SOR item no.5.0) in all kinds of soil, asphalt roads, concrete pavements, concrete and tiled floors, all kind of pathways etc for making connection with the existing MDPE pipeline of sizes ranging from 125 mm NB to 20 mm NB laid by others at one end and joining TF at other end.				
b)	Trenching of the required width and depth in all kind of the surface and laying of PE pipes of sizes 20 mm & 32mm for maximum length up 10m from saddle /tee connectivity at one end for connecting with the existing PE network and TF for GI pipe connectivity at the other end including crossing of MDPE pipes below the drains as required depending on the drain depth but not less than 1000 mm cover.Supply of TF is in the scope. Backfilling as per specification is to be done.				
c)	Alternatively, as per site conditions, if drain crossing from below the drain is not feasible then through drain crossing can be carried out by supplying and provding GI sleeve (40 mm GI sleeve for 20 mm PE pipe and 50 mm GI sleeve for 32 mm PE Pipe) across the drain. In soil/all type of surfaces where cover is less than 500 mm, GI sleeve and if the cover is between 500-800 mm, PCC 1:2:4, width 150 mm concrete shall be provided as per the Instruction of EIC / representative. Drain dismantling /groove cutting for laying the pipe across the drain including grouting of the GI Sleeve is in the scope of this item.				
d)	Flushing and Pneumatic testing at 6 Kg/cm2 or more up to 10 kg/cm2 (as asked by GGPL/MECON) for four hours from Saddle tap off to Transition Fittings (TF) or from TF to PE pipe to tee joint excluding Tee as the case may be (In case of Tee, tee weld joints shall be golden joints)				

e)	Supply and installation of 2.5 inch dia x 1000 mm length GI PIPE (Medium Class) for 20 NB MDPE pipe as TF Gaurd or 4 inch x 1000 mm length GI PIPE (Medium Class) for 32 NB MDPE pipe as TF Gaurd, 300-400 mm above ground level and 600 mm below ground level, filling the annular space inside the TF guard with sand and filling sand extenally for the excavated width and depth all around the TF upto the PE pipe bend. Supply of sand is included in this item				
f)	Restoration of the pits and all kind of surfaces (concrete/asphalted/tiled) upto 10 m length to the original condition				
	Note: Road crossing width is excluded in the 10 m laying length limit for the item 2.10				
3.00	MDPE TO GI CONNECTIVITY FOR INDIVIDUAL HOUSES -Asphalt Road Crossing by using mechanical excavator /Moling machine/HDD or manually depending upon the site condition				
	Laying of MDPE Pipeline for asphalt road crossing over and above --- item 2.0 (crossing road width to be considered from from road edge to road edge) or opposite road edge to the pit made for carrying out MDPE laying as per item 2.0.				
a)	20 mm / 32 mm PE 100 pipe	Meters	200	650.00	1,30,000.00
4.00	Same as 1.0 except wherein pipe cover is less than 600 mm which may occur in building complexes/ Housing Socities having concretes flooring/ pavements/pathways, where it is not feasible for laying of PE pipe with a cover more than 600mm				
	Dismantling and breaking of the concrete surface/tiled surface to the extent feasible and Laying of PE pipe with GI sleeve with concrete encasing all around for the trench width upto the existing surface level. Supply of GI sleeve and Carrying out Plain Cement Concrete encasing (1:2:4) shall be paid separately by SOR item No. 10.0 and 11.0 respectively				
a)	20 mm PE 100 pipe with 2" inch GI sleeve	Meters	10	900.00	9,000.00
b)	32 mm PE 100 pipe with 2" inch GI sleeve	Meters	50	1,100.00	55,000.00
c)	63 mm PE 100 pipe with 4" inch GI sleeve	Meters	50	1,300.00	65,000.00
d)	90/125 mm PE 100 with 6" GI sleeve	Meters	10	1,500.00	15,000.00
5.00	Excavation of pit beyond 1.5 m and upto 3 m depth for carrying out item 1.1 for making connectivity	Cum	50	700.00	35,000.00
6.00	Restoration of asphalted roads / concrete roads /pavements / foot paths				
a)	Asphalt road : Restoration of bitumen Asphalt road after laying of MDPE pipe line as per the drawing, specifications and instruction of Engineer-In-Charge. Restoration of roads shall be done to fullest satisfaction of Land owning Agencies / RWA / Society etc. and to get NOC, if applicable , from the concerned authorities.	Meters	100	900.00	90,000.00
b)	Restoration of the all kind of pathway by using excavated material such as tiles/pavers/granite/red stone etc by providing PCC 1:4:8 of 50mm thickness below after compaction of the filled soil, fixing the Tiles/Paver/Granite etc and matching it to the existing surface. Item includes providing of extra finished material if required.such as Tiles/Paver/Granite etc matching to original pathways. The area restored shall be measured in Sqm.	Sqm	10	900.00	9,000.00
c)	Reinforced Concrete road/ Reinforced Concrete pavement: Restoracion of reinforced concrete road and pavements shall be done by providing PCC 1:4:8 of 75 mm thick and RCC 1:2:4 of 100 mm thickness and providing 8 mm dia rod at 200 mm C/C. The cost of Shuttering, compacting the base surface etc.. are in the scope of this item. The area restored shall be measured in Sqm.	Sqm	10	1,500.00	15,000.00
7.00	Supply and installation of PE Isolation Valves				
	Supply of isolation valves (as per data sheet) and installtion of valves in the valve pits as per typical drawing and specification enclosed and instructions of Engineer-in-charge. Payment of valve pits shall be made separately.				
a)	PE Valve, 20 mm / 32 mm dia	Nos.	5.00	20,000.00	1,00,000.00
b)	PE Valve, 63 mm dia	Nos.	2.00	22,000.00	44,000.00
c)	PE Valve, 90/125 mm dia	Nos.	1.00	25,000.00	25,000.00
8.00	Construction of Valve pits				

	Construction of Value Pits with CC blocks of Grade M 7.5 as per approved drawing no. and specification. The item includes supply of all the material including Heavy duty Pre-cast RCC cover, shuttering, reinforcement, labour, curing etc as per the drgs specification and instruction of EIC. (Internal size of Minimum 600x600mm)	Nos.	8.0	15,000.00	1,20,000.00
9.0	Warning Plate Markers				
a)	Supply, fabrication and installation of WARNING PLATE as per the approved drg and specification. Item includes application of approved quality of primer and paint, lettering with stencil and fixing on walls / any other suport using Dowel pins etc.	Nos.	50	300.00	15,000.00
10.00	Supply of GI sleeve of medium grade as per IS 1239 /IS 3589 (wherever required as a special case as per instruction of the Engineer-In-Charge)				
a)	GI Sleeve - 2" NB	Meters	50	400.00	20,000.00
b)	GI Sleeve - 4" NB	Meters	30	600.00	18,000.00
c)	GI Sleeve -6" NB	Meters	10	850.00	8,500.00
11.00	PLAIN CEMENT CONCRETE(1:2:4) for pipe encasing below 600mm piping cover.				
	Supplying and laying plain cement concrete with stone aggregate 20mm down grade (including shuttering if required) for encasing of PE pipe with / without GI sleeve and restoring it to the original floor/pavements/pathways.	Cum	10	5,500.00	55,000.00
12.0	Supply(230*115*75) and placing of Class 35 bricks in trenches as per the direction of EIC and as per the approved drawing. Item includes cost of transporation, loading & unloading, Custody and labour for placing the bricks in trenches . Note: 1. For 20/32mm wherever required as per direction of EIC. 2. For 63 mm all along the pipe (230mm side) 3. For 90/125mm all along pipe (115mm side)	sqm	200	350.00	70,000.00
13	PNG Connection to Domestic, Commercial and industrial Consumers				
13.1	Supply and Installation of GI Pipes as per IS-1239 (C-Class/ Heavy) for PNG connection (Upto 10 Floors)				
	Supply & installation of Heavy duty GI pipes (as per IS:1239) of approved make alongwith all required fittings such as sockets, elbow, tee, reducer, bend, union, GI plug, endcap etc, fixed vertically as well as horizontally for providing PNG connection to house hold in various type of Buildings including Highrise buildings. All pipe and fittings shall have coating with 60 micron synthetic paint of approved colour and shade. Alternatively, pipes and fittings to be applied with two coat of synthetic enamel paint of approved make and colour. The application of paint shall be before fixing the pipe to wall. Item includes pneumatic testing of the assembled section as per the specification and standard procedure of testing of the complete installation, making required arrangement for fixing of the pipes such as scaffolding, rope ladder etc, supply and fixing of approved clamp, screw (SS screw of approved make), dowel plug, steel supports with rods, fastners etc. If required, making holes by core cutting etc.				
a	1/2 " NB	Meters	3000	450.00	13,50,000.00
b	3/4 " NB	Meters	100	500.00	50,000.00
c	1 " NB	Meters	50	600.00	30,000.00
d	1 1/2 " NB	Meters	30	700.00	21,000.00
13.2	Commissioning of GI Piping for PNG Connection				

	Commissioning of the GI piping network of various size from 1/2" to 1.5" NB having riser, headers as well as laterals . Item include checking of the network by air pressure, repair if any leakage observed and to make network ready for GAS-IN by providing manpower tools & tackles,gasket etc. The total length of the network being tested shall be consider for payment.				
a	All size GI network from 1/2" to 1.5"	Meters	3180	15.00	47,700.00
14	<u>Providing PNG connections</u>				
14.1	Copper Pipe (Size- 12 mm OD X0.6 mm wall thk.) : Supply, installation, testing and commissioning of Copper pipe of approved make at all floors as per approved plan from outlet of Meter to Appliance valve including all brass fitting, plastic clamps (closed type) etc complete as per technical specification. Proper bending tools shall be used for bending of the pipe as per site requirement.	RM	1750	200.00	3,50,000.00
14.2	Fixing of DOMESTIC METER at all floors with supply & fixing of associated inlet and outlet connections/ fittings, brackets, fasteners and other supports with grouting as required, by using proper scaffolding. DOMESTIC METER is a free issue material. The brass fittings shall be used for connecting meter outlet.	Nos.	500	850.00	4,25,000.00
14.3	REGULATORS : Installation of all type of regulators at all floors of various capacity 2.5 to 6.5 SCMH with supply & Fixing of associated inlet and outlet connections/ fittings, brackets and other supports with grouting as required, by using proper scaffolding. Restoring the area to original complete as per specification. REGULATOR & ADAPTOR is a free issue material.				
a)	Domestic regulators - 2.5SCMH-100 mbar to 21 mbar (Supply of regulator and Adopter is free issue Material)	Nos.	200	100.00	20,000.00
b)	Domestic regulators - 2.5 and 6.5 SCMH regulators,- Pressure 4 bar to 21 mbar (Only supply of Regulator is free issue Material)	Nos.	300	150.00	45,000.00
14.4	COMMERCIAL METER : Installation & fixing of commercial meters alongwith box such as G6,G16 and G25 etc with associated inlet and outlet connection fittings, meter brackets(if required), pipe supports etc, by using proper scaffolding. Restoring the area to original complete as per specification. COMMERCIAL METER alongwith box is a free issue material.	Nos.	2	2,500.00	4,545.45
14.5	Installation of Commercial/Service Regulator : Installation & Fixing of commercial /services regulators of various capacity with associated inlet and outlet connection fittings with required supports. Restoring the area to original complete as per specification. SERVICE REGULATOR & COMMERCIAL REGULATOR is a free issue material.				
a)	Service Regulator (0.5 - 6 bar to 100 mbar) - 10 SCMH to 65 SCMH capacity	Nos.	20	600.00	12,000.00
b)	Commercial Regulator (0.5 - 6 bar to 300/ 500 mbar) -10 SCMH to 65 SCMH capacity	Nos.	2	600.00	1,090.91
14.6	Supply and installation of Isolation Valves of approved make as per the technical specification given in tender document and as directed by EIC: In the installations for kitchens/laterals, wherein immediate usage of gas is not intended, the handle of isolation valves shall be sealed by placing a wire or plastic strip through the holes of the handle and wrapping it around the valve and then crimping with plastic sealhead.				
a)	Isolation Ball Valve				
i)	Isolation Ball Valve 1/2 " max. 6 bar (g)	Nos	1000	190.00	1,90,000.00
ii)	Isolation Ball Valve 3/4 " max. 6 bar (g)	Nos.	50	500.00	25,000.00
iii)	Isolation Ball Valve 1 " max. 6 bar (g)	Nos	5	650.00	3,384.30
iv)	Isolation Ball Valve 1 1/2 " max. 6 bar (g)	Nos	1	900.00	1,190.08

b)	Supply and installation of Appliance Valves of approved make as per the technical specification given in tender document and as directed by EIC: In kitchens, wherein immediate usage of gas is not intended, the appliance valves shall be sealed by placing a plastic cap at its outlet and seal it by wrapping a plastic strip around the valve and then crimping with plastic sealhead.				
	Appliance Ball Valve 1/2 " max. 100 milli Bar (g)	Nos.	500	140.00	70,000.00
14.7	Service Regulator Boxes : Supply including and installation of Service Regulators Boxes as per drawing and as per directions of EIC, along with supports, fixtures etc. with proper grouting using proper scaffolding .	Nos	6.0	15,000.00	90,000.00
	Providing PNG connections to New Customers from Handed-Over Buildings/Apartments				
15	Extra for doing PNG connection from the existing GI infrastructure in already handed over buildings by newly mobilising materials, manpower, hanging scaffolding including petzel, ropes, hooks, harness etc. All the items used for PNG connection such as GI piping, isolation valve, copper tubing, fixing Meter/Regulator and appliance valve shall be paid as per respective items of SOR. This rate is payable only for those PNG connections which are coming after 30 days of buildings are handed over after completion of all work. Payment will be made against no. of PNG domestic connection. The decision of the EIC shall be final.	Nos.	20	1,000.00	20,000.00
16	Change of Reticulated LPG system to PNG system				
16.1	Conversion of existing LPG reticulated system to PNG system by the following steps:				
	Studying the existing LPG system (Under use/Not in use) and preparing the complete plan to convert it into PNG system with minimum disturbance to end users. This needs to be done in consultation with RWA/Society representative and need to be get approved from MECON/GGPL.				
1)	Modification in the existing LPG system to convert into PNG system as per the approved plan, by replacing existing MS/GI pipe, fittings, valve etc (if required) through welding/ threading alongwith required fixture, fittings, clamping etc and testing of the entire PNG system (GI/MS) upto Isolation valve of the houses as per the testing procedure and commissioning. The scope also includes replacement of (If required) existing LPG Service Regulators with PNG Service Regulators(SR). PNG Service Regulator shall be free issue material . The payment under this item shall be made based on no. of total houses/flats for which infrastructure is ready for PNG in the particular apartment/society/building. GI piping and isolation valve shall be paid separately.	Nos.	10	2,000.00	20,000.00
2)	Replacement of the LPG Meter, any connected regulator (if required), providing regulator with PNG meter (as required), connection between Isolation valve and PNG meter, Meter outlet to Appliance valve by providing GI / copper tubing (if required) all complete upto appliance Valve. (GI piping, copper tubing and appliance valve shall be paid separately.	Nos.	10	300.00	3,000.00
TOTAL AMOUNT INCLUSIVE OF ALL TAXES AND DUTIES EXCEPT GST					98,37,410.74

3000

