



गेल (इंडिया) लिमिटेड

(भारत सरकार का उपक्रम – महारत्न कंपनी)

GAIL (India) Limited

(A Government of India Undertaking— A Maharatna Company)

“स्वान”, दूसरी मंज़िल,
#323, कोडिगेहल्ली मेन रोड,
सहकार नगर,
बेंगलुरु – 560092
“Swan”, 2nd Floor,
#323, Kodigehalli Main Road,
Sahakarnagar,
Bengaluru – 560092
फ़ोन/Phone : 080-46244111
फैक्स/Fax : 011-26185941

LETTER OF ACCEPTANCE

To
MAS CONSTRUCTIONS
RH1/2, Plot No.5, Sect-3
Shree Nithyanand CHS
RH1/2, Plot No.5, Sect-3
New Panvel (E)
Navi Mumbai-410206
Maharashtra, India
Tele No : 02227462363

LOA No. : GAIL/BLR25-66/5300046844/20134414/BBA
Dated : 02.02.2026

RFQ No. & Date : 3300105382 Dt. 04.12.2025
Your offer/Qtn.No.: .
Qtn. Dt. : 23.12.2025
E Tender No.: NIL
Vendor Type : OTHERS (Non-MSE)
Vendor GSTN No : 27AIFPP9758D1ZT

Kind Attn :

Name of Work : RE-ROUTING & ASSOCIATED WORK FOR 24" X 1.4 KM
SINGASANDRA-KRISHNAGIRI PIPELINE AND REPLACEMENT OF PIPE SPOOL AT CH 14.2KM FOR
M/S. GAIL (INDIA) LIMITED.

Dear Sir/Madam

With reference to your Offer against our RFQ and all subsequent correspondences (if any) till date and in continuation of our Fax/Letter of Intent (if any) we are pleased to award the subject works highlighting the following salient features:

Scope of Work : RE-ROUTING < (> &<)> ASSOCIATED WORK FOR 24" X 1.4 KM

Price Basis:

ITEM 1 RE-ROUTING & ASS.WORK FOR INR 81,023,838.60
24x1.4KM SKPL

The estimated contract value of the subject job under this contract shall be Rs. 8,10,23,838.60 including GST@18%.

The Order/ contract value mentioned above is subject to Price Reduction Schedule clause.

Schedule of Rates:

The proforma for schedule of rates enclosed with tender document shall be replaced by the Schedule of Rates (SOR) as enclosed to this LOA for purpose of Quantity, UOM & Rate.

Abnormally High Rated Items :

Following 32 items of the SOR are AHR items and shall be executed in accordance with the AHR clause of the tender document

पंजीकृत कार्यालय:
गेल भवन 16, भीकाएजी कामा प्लेस
नई दिल्ली, 110066-इंडिया

REGD. OFFICE:
GAIL BHAWAN, 16, BHAIKAIJI CAMA PLACE
NEW DELHI-110 066. INDIA

सीआईएन/CIN
L40200DL1984GOI018976
www.gailonline.com

A.6.1, A.7.1, A.7.2, A.8.1, A.9.3, A.9.5, A.10.1, A.10.2.1, A.12.1, A.13.1, A.14.1, A.15.1.1, A.15.2, A.17.3, A.20.1, A.22.1, B.1.1, B.1.2.1, B.1.2.3, B.1.3, B.2.1, B.2.2.1, B.2.2.3, B.2.3.1, C.1.2, C.3, C.4.2, C.4.3.3, C.4.3.4, C.4.4.1, C.4.5, C.4.6

Duration of Contract/Completion Schedule :

Completion Schedule / Completion Period shall be as per clause no. 4.0 of SCC.

Completion schedule shall be 3 (Three) months from the date of Fax of Acceptance (FOA) for Mechanical Completion including mobilization period of 15 (fifteen) days and thereafter 15 (Fifteen) days for Commissioning/Gas-in.

Validity of Contract Period shall be 3.5 months from date of issuance of LoA/FoA, whichever is earlier.

Performance Bank Guarantee:

The bidder shall submit Contract Performance Security / Security Deposit [CPS/SD] amount @10% of Total Order / Contract value (excluding GST) i.e. Rs. 68,66,430/- valid upto 31.08.2027 and claim period upto 30.11.2027, within 30 days of award of contract from GAIL.

OR

The bidder shall submit Initial security deposit (ISD) @5% of Total Order / Contract value (excluding GST) i.e. Rs. 34,33,215/- valid upto 31.08.2027 and claim period upto 30.11.2027, within 30 days of award of contract from GAIL and deduction @10% of the RA bill subsequently from RA bills till the total amount of security deposit (including ISD and deducted amount) reaches 10% of Total Order / Contract value.

GAIL/s vendor(s)/contractor(s) can submit contract performance security in the form of digital CPBG through SWIFT channel from the following banks. These banks are live with GAIL on SWIFT platform and directly push your digital CPBG from their system to GAIL without any manual intervention.

- a) Axis Bank
- b) HDFC Bank
- c) ICICI Bank

To facilitate the seamless submission of digital CPBG through SWIFT platform, please provide the following information while advising digital CPBG through any of the above Bank.

S.N. Information SWIFT Field No. Field Data / Details

- 1. GAIL Identification No. BIC Code GAIINDXXXX
- 2. SAP PO No. 72Z # First Line /PO/3000/3181/5300046844
- 3. Claim expiry Date 72Z # Second Line 271130

In case, GAIL allows additional time for submission of CPBG/SD beyond 30 days, a penal interest of Marginal Cost of Fund based Lending Rate (MCLR) for one year charged by SBI (applicable on due date of submission of CPBG/SD i.e. 30th day after issuance of FOA/Notification of award) plus 4.0% p.a (on CPBG/SD amount) shall be charged for delay beyond 30 days i.e. from 31st days after issuance of LOA.

The bidder shall furnish the Contract Performance Security (CPS) in accordance with ITB, General Conditions of the Contract & as per Form F-4 of Tender Document only. Further, they also submit covering letter along with CPS as per format at F-4.

Contract Agreement:

Contractor is required to execute a contract agreement with GAIL (India) Limited, Bengaluru on non-judicial stamp paper of Karnataka State for appropriate value within fifteen (15) days from the date of issuance of LOA in exact format available in the tender document. All charges including cost of stamp paper associated with this agreement shall be borne by contractor.

Payment Terms:

Payment terms shall be as per clause no. 34.0 of SCC.

Pending completion of the whole works, provisional progressive payments for the part of work executed by the contractor shall be made by Owner on the basis of said work completed and certified by the Owner's representative as per the agreed milestone payment schedule and the percentage break-ups given in SCC.

Contractor shall submit his invoices to the Owner's representative fortnightly in the manner as instructed by Owner. Each invoice will be supported by documentation acceptable to Owner and certified by the Owner's representative. Payments made by owner to the contractor for any part of the work shall not deem that the Owner has accepted the work. All payments against running bills are advance against the work and shall not be taken as final acceptance of work / measurement carried out till the final bill. Owner will release payment through e-payments only as detailed in the bidding document.

The contractor shall raise invoices on fortnightly basis. Bidder shall enclose all documents as per check list issued by PMC/GAIL. However, EIC may authorize payments for bills more frequently i.e. periodicity of less than fortnight, depending on site requirements.

After receipt of complete RA Bill as per terms and conditions of the contract and duly certified by PMC/GAIL, within period of 15 Days by GAIL.

Paying Authority:
VIM/Sparsh Portal.

PAN Particulars:

GAIL (India) Ltd PAN No. AAACG1209J

"As per CBDT Notification No. 95/2015 dated 30.12.2015, mentioning of PAN no. is mandatory for procurement of goods / services/works/consultancy services exceeding Rs. 2 Lacs per transaction.

Accordingly, supplier/ contractor/ service provider/ consultant should mention their PAN no. in their invoice/ bill for any transaction exceeding Rs. 2 lakhs. As provided in the notification, in case supplier/ contractor/ service provider/ consultant do not have PAN no., they have to submit declaration in Form 60 along with invoice/ bill for each transaction. Payment of supplier/ contractor / service provider/ consultant shall be processed only after fulfilment of above requirement".

GSTN Details :

Please note that our state/plant wise GSTN details as below for invoicing and other purpose.

NG Transmis-KMPL-Karnataka (3181) 29AAACG1209J1ZS

GAIL has implemented Vendor Invoice Management System for processing of invoices. The solution has been configured to handle both physical invoices as well as digitally signed invoices. This system optimizes the invoice management at GAIL and expedite their processing. The detailed methodology for submission of invoices shall be informed separately.

As a pre-requisite to the system, it is important to mention the details of Purchase Order/ Letter of Acceptance number on the face of invoice. Accordingly you are requested to ensure Purchase Order/ Letter of Acceptance number is clearly mentioned on the Invoice. Further Invoices should be system generated and no handwritten invoices shall be eligible for OCR conversion on VIM portal.

Your Bank Details :

Please note that details of your bank account in our system are as under. You are requested to verify the same and intimate discrepancies, if any

Account No. - 50200048220122
Bank Name - HDFC BANK
IFSC Code - HDFC0002868

Price Reduction Schedule:

Applicable as per clause no. 62A of SCC.

62A.1 Clause no. 27.0 of GCC, pertaining to Compensation for Delay (Price Reduction Schedule) stands modified to the following extent:

62A.1.1 The contractual completion period is as given in the Invitation for Bids and sub-divided into two parts:

- a) Mechanical completion including mobilization period of 15 (fifteen) days-3 (Three) months from date of Fax of Acceptance
- B) All other associated work including Commissioning and Gas-in.- 15 (fifteen) days after mechanical completion.

62A.1.2 The Price Reduction Schedule (PRS) under 62A.1.1 above shall be applied as under:

- i) "In case of delay in works related to clause 62A.1.1 a) : at the rate of $\frac{1}{2}$ % of 80% of the total contract value per week of delay or part thereof subject to maximum of 5% of 80% of the total contract value.
- ii) "In case of delay in works related to clause 62A.1.1 b): at the rate of $\frac{1}{2}$ % of 20% of the total contract value per week of delay or part thereof subject to maximum of 5% of 20% of the total contract value.

The total liability of the Contractor to Employer/ Consultant under sub clause no. 62A.1.1 on Compensation for Delay/Price Reduction Schedule shall not exceed 5% (Five Percent) of contract value. The compensation on account of any liability (ies) other than above shall be as per provisions of Bidding Documents.

The value referred in PRS clause is excluding taxes and duties reimbursable by GAIL.

Defect Liability Period:

12 months from the date of Completion in totality as per tender document and Acceptance against this Contract. Date of Completion shall be reckoned as mentioned in Work Completion certificate.

Contract Document:

FOI Reference/Regularization:

Regularization of FOA No. GAIL/BLR25-66/C&P/PIPELINE/20134414/RDB dated 31.01.2026.

Engineer-In-Charge:

Sh. D Sakthivel,
DGM (O&M)
E-mail Id: newsakthi@gail.co.in
Ph. No. 8605610003

Other Contractual Stipulations:

1. Gail has implemented "ANJANI" e-measurement book & e-billing portal for ease in submission of measurement book/bill and reduction in paper transaction.

Accordingly, GAIL will process the bill with measurement book through "ANJANI" e-measurement book & e-billing portal (Link: <https://gailebank.gail.co.in/MBautomation/frmlogin.aspx>). Accordingly, contractor/ service provider/ consultant is requested to forward the RA bill on "ANJANI" e-measurement book & e-billing portal through concerned EIC/CIC/SIC, whichever is applicable.

Further, user manual is also available on aforesaid portal.

In case of any issue while submitting the RA bills in ANJANI portal, kindly contact to engineer-in-charge or team ANJANI (E-mail Id: embhelpdesk@gail.co.in (0120-2446400 extension 11509).

2. Vendors Details:

Mr. Sunny Mathew
Contact No.: 9322645851
E-mail Id: mas_alibag@yahoo.co.in

3. All other terms & conditions shall be applicable as per Tender No. 2025_GAIL_257491 dated 04.12.2025.

Vendor Code: 101030117
MAS CONSTRUCTIONS

LOA No. : GAIL/BLR25-66/5300046844/20134414/BBA
LOA Date : 02.02.2026

General Conditions of Contract:

As per GCC-Works attached with tender.

Special Conditions of Contract:

As per SCC & SOW attached with the tender.

Post Order Correspondence:

All post order correspondences shall be made with Engineer-In-Charge (EIC) only.

Vendor Code: 101030117
MAS CONSTRUCTIONS

LOA No. : GAIL/BLR25-66/5300046844/20134414/BBA
LOA Date : 02.02.2026

Enclosures :

1. LOA No. 5300046844
2. FOA No. GAIL/BLR25-66/C&P/PIPELINE/20134414/RDB dated 31.01.2026
3. Tender No. 2025_GAIL_257491 dated 04.12.2025

This order is being issued in triplicate. Two copies of the order duly signed, stamped and dated on each page, may be returned within 3 days from date of receipt of the order to the undersigned..

For & on behalf of
GAIL (India) Ltd.

Bishar Digitally signed
by Bishar Bin Ali
(Authorized Signatory) Date: 2026.02.06
Bin Ali 19:15:04 +05'30'
NAME:
DESIGNATION:

NOTE: Each page of this order including its annexure should be signed and stamped by the contractor before returning to GAIL (India) Ltd..

SCHEDULE OF RATES

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A	SECTION-A (MAIN LINE WORKS)					
B	SECTION-B [TCP WORKS]					
C	SECTION-C [TELECOMMUNICATION WORKS]					
D	SECTION-D(EARTHWORK)					
E	SECTION-E(CUT & REPLACET @ CH14.2KM)					

A	SECTION-A (MAIN LINE WORKS)					
A.1	PIPELINE LAYING / INSTALLATION					

A.1.a)Laying/ installation of 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 :

A.1.b)""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 of the pipeline along NH corridor/ 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 NH Corridor/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 :

A.1.c)Staking and installation of temporary construction markers, clearing, grubbing & grading (as required) of Corridor/Right of Use/ Right of Way;

A.1.d)

Shifting of all obstruction within the Corridor/ pipeline route alignment viz. electrical line / pole, telephone line (poles), foreign pipeline; coordination with concerned authorities.

A.1.e) 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 document and as per the relevant standards, specifications, etc. by excavation in all types of soils (including soft/hard rock), including 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;

A.1.f)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.

A.1.g)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.

A.1.h)Thorough internal cleaning of all pipes by suitable methods to remove debris, shots, grits etc. to the satisfaction of Engineer-in- Charge;

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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A.1.i)Stringing of line pipes along Corridor/ROU/ROW including providing straw and sand.

A.1.j)"Aligning, bending, cutting and beveling (as required) of pipes for welding and field adjustments, NDT of rebevelled area (DPT, UT, UFD as approved by PMC), welding, carrying out non- destructive testing (100%) by X-Ray/Gamma-ray (as approved by PMC) 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, UFD, DPT etc. as required on repaired joints,etc. as mentioned in SCC & Particular Jobs Specification."

A.1.k)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 laying by HDD method, that are specifically covered separately elsewhere in the SOR) by open cut after prehydrotest of the section, if required, including restoration of the banks to original conditions (in case of waterbody crossings) duly accepted by Competent Authority as defined as per specification.

A.1.l)Supply of coating materials for all field joints, Long Radius Bends, Buried Fittings 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.

A.1.m)Coating of all field weld joints, long radius bends, buried fittings etc.;

A.1.n)Training and diversions of streams in steep slope areas, wherever required.

A.1.o)Crossing all the foreign pipeline / HT line / Power lines/ cable / any other utilities etc. with necessary concrete / PVC protection including coordination with all agencies.

A.1.p)For seismic area - the trenching and backfilling shall be carried out as per specification and drawing no. GAIL/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).

A.1.q)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;

A.1.r)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.

A.1.s)Supply and installation of slope breaker as per specifications and drawings in steep slope areas, wherever required;

A.1.t)Installation of LR Bend, as per specification wherever required depending on site condition.

A.1.u)Supply and installation of warning mat as per relevant clause mentioned in PJS and specifications enclosed in the bid document.

A.1.v)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

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
 Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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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.

A.1.x)(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.

A.1.y)All tie-ins including cutting of test header, re-beveling as required , radiography and other NDT examination, joint coating as per specification.

A.1.z)Carrying out all temporary, ancillary, auxiliary works and all incidental works required to make the pipeline ready for pre-commissioning;

A.1.aa)Repair of defects recorded during EGP/gauge plate run or otherwise including cutting, beveling, welding, radiography, field joint coating etc; as applicable"

A.1.ab)Final clean-up and restoration of NH Corridor/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;

A.1.ac)Restoration of land, facilities, boundary wall and roads etc. and associated facilities dismantled/ damaged by the Contractor during construction;

A.1.ad)Complying with all stipulation/conditions/recommendation of the authorities before and after execution of the work;

A.1.ae)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:

A.1.af)Installation of Coated Line Pipes as per following details:

A.1.ag)All type soil & top cover 2-5 meter

Trench shoring panels lining the vertical walls of the trench is required & dewatering if applicable.

A.1.ah)Line pipe details

A.1.1	609.6,12.2/15.1/15.9/17.5, All type of soil	900	M	24,000.00	21,600,000.00	
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Size:609.6; Thk.:12.2/15.1/15.9/17.5 or higher; Grade:API 5L Gr. X-70; Coating Type: 3 Layer PE Double random; Length of each Pipe: (PSL-2 Coating 11.5 to 12.5 mtr.) & Bevel End

Notes :

1. This item rate is applicable for complete work of laying of underground pipeline of 24" x 1.4 KM GAS PIPELINE SECTION FROM CH. 11.062 KM TO 12.135 KM OF (Re-routed portion) SINGASANDRA-KRISHNAGIRI PIPELINE including hook-up with existing Pipeline. The length of pipeline are

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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tentative. Hook-up with existing pipeline shall be payable as per separate SOR item mentioned elsewhere.

2. Rate for laying of OFC & HDPE duct shall be quoted in relevant Schedule of Rates (SOR) of Telecom works, hence not to be included in Pipeline Laying works.

3.The above rate shall be inclusive of hydrotesting of 24" x1.4 Km including hydrotesting of all crossing sections (if any).

4. 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.

5. Contractor shall return all surplus material to defined storage yard as mentioned in Annexure-2 to SCC, as directed by Engineer-In-Charge. Payment of transportation shall be done as per applicable SOR.

6. Payment for supply & application of continuous concrete weight coating will be made as per other relevant SOR item. However , installation of the same is covered in this SOR.

7. Backfilling shall be as per standard practices and to the satisfaction of authorized representative. All required restoration work subsequent to laying works shall be required to be undertaken by the contractor to the satisfaction of authorized representative.

8. Restoration of NH and concrete road shall be payable through SOR item mentioned elsewhere. However , restoration of balance portion is inclusive in above item rate.

9.In instant proposed work designated Company storage area at nearby work site location is not available, therefore linepipe or other free issue material to be stored at Contractor storage area/yard with deployment of Security Guard without any cost implication to GAIL.

A.2	PIPELINE LAYING/INSTAL.BY HDD METHOD					
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A.2.a)Complete work of laying of pipeline in restricted ROW/ NHAI Corridor along with adjacent road/nala/Pond/Concrete Structure/Culvert by HDD method including "Receiving and taking over" owner supplied 3LPE coated line pipes from owner's designated place to issue/dump site(s) and transportation to contractor's stock yard/work site including all handling, loading, uploading, aligning etc. supply of all contractor supplied material including consumables, manpower, equipment, CS Conduit pipe for OFC, 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.

A.2.b)Pre-construction survey, Topographical and geotechnical 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.

A.2.c)Drilling to required depth from top of ground (min 1.5 mtrs.) including maintenance of drill hole in all types of strata including soil and all types of rock, all depth to accommodate the pipeline at all conditions encountered by approved HDD methods for providing minimum cover specified in code/specification or the actual depth as decided by concerned authority, whichever is more.

A.2.d)Laying of the pipeline by the approved HDD method including pipeline string preparation, welding, testing, 100% radiography by X-ray/Gamma-ray (as approved by PMC, welding repair and retest, coating of

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field joints with special type Dirax Heat Shrink Sleeve or equivalent (including supply of coating material) and repair of pipeline coating with special PERP-80 repair patch or equivalent material (including supply of repair patch) along with laying of CS conduit pipe for OFC as per specification, pre-hydrotest of complete strings made for laying etc.

A.2.e) 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.

A.2.f) Gauging, pigging, Cleaning, Post installation hydrotest, dewatering and tie-in with pipeline at either banks etc. all other works including pigging, Cleaning, final hydrotesting etc. along with 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.

A.2.g) Installation/laying of Coated Line Pipes as per following details:

A.2.h) Line pipe details

A.2.1	609.6, 12.2/15.9/P/L Lay.etc.HDD (ROCKY)	350	M	58,000.00	20,300,000.00	
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Size: 609.6; Thk.: 12.2/15.1/15.9/17.5/ Higher; Grade: API 5L Gr. X-70; Coating Type: 3 Layer PE Double random; Length of each Pipe: (PSL-2 Coating 11.5 to 12.5 mtr.) & Bevel End; rocky soil

A.2.2	609.6, 12.2/15.9/P/L Lay.etc.HDD-NRML SOIL	50	M	45,000.00	2,250,000.00	
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Size: 609.6; Thk.: 12.2/15.1/15.9/17.5/ Higher; Grade: API 5L Gr. X-70; Coating Type: 3 Layer PE Double random; Length of each Pipe: (PSL-2 Coating 11.5 to 12.5 mtr.) & Bevel End; normal soil

A.2.j.

Note: (i) Pipeline length are tentative and applicable for locations wherein laying through open cut is not feasible. Crossing methodology of such crossings shall be decided after joint site visit. 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.

(ii) Payment for the length of final tied-in carrier pipeline string are inclusive in the below item rate and no separate payment shall be made under other item mentioned elsewhere.

(iii) Width of above laying indicated are tentative. The width indicated are not for any single laying. This shall be as per requirement at site for laying at different locations and may increase/ decrease or delete based on the site requirement.

(iv) Contractor have to use rock cutting tool/ Diamond Cutter and all other accessories as required to make drill hole in rocky strata based on requirement. However, no extra payment shall be admissible against mobilization of specialized tools, manpower etc. during execution

A.3	PIPE LAYING USING MANUAL/ MACHINE MOILIN					
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Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Pipe Laying using Manual/ Machine Moiling technique (without Casing) for Carrier pipe and HDPE duct

A.3.a) Complete work of any type of crossing (within the allocated corridor as defined in Crossing Drawings enclosed with Bid Document) using Manual/ Machine Moiling 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), Execution of works in accordance with specifications and instruction of Engineer-in-charge and as per all provision of Contract Document.

A.3.b) Note:

1. This item rate is applicable for complete work of crossing using Manual/ Machine Moiling 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 incase 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 along with 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

A.3.1	609.6,12.2/15.9/P/L Lay.etc.-MOILING	350	M	1,000.00	350,000.00	
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Installation of 24" (610 mm OD, 12.2/15.1/15.9/17.5 mm or higher wall thk) of API 5L Grade X-70 carrier pipe along with HDPE duct using Manual/ Machine Moiling technique (without Casing) (all type soil & top cover 2-5 meter)

A.4	CONTINUOUS CONCRETE COATING					
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Additional work over and above SOR for supply of all consumables and materials and application of continuous concrete weight coating of minimum density 2245 Kg/m³ 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) and performing all works as per specifications and instructions of Engineer-in-Charge and other provisions of Contract document.

Pipes as per following details :

A.4.1	Cont.Conc.Coat.,Pipe OD609.6mm, CT-100mm	36	M	8,000.00	288,000.00	
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Pipe OD-609.6 mm, WT- 12.2/15.1/15.9/17.5 mm or higher for X-70, Coating Thickness -100 mm

A.5	VENT.NATURAL GAS&PURG.THROUGH NITROGEN					
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Providing all assistance during venting of natural gas in-between SV-1K at Ch. 10.13 Km to SV-2K at Ch. 17.112 km and purging with Nitrogen to the specified acceptance criteria including supply of all equipment, man-power, consumables (including nitrogen required for purging) materials for all temporary works and performing all associated works, complete as per the relevant specifications,

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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other provisions of Contract document and instructions of Engineer-in-charge.

A.5.1	Vent.Natural Gas etc.Incl.Nitrogen Purg.	7,000	M	150.00	1,050,000.00	
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Venting of natural gas between SV-1K at Ch. 10.13 Km to SV-2K at Ch. 17.112 km of 24" Singasandra-Krishnagiri Pipeline including nitrogen purging before start of hot work

Note: Activity envisaged above is for removing hydrocarbon from pipeline to start cold cutting and further fabrication activities to hook-up the newly fabricated string with existing pipeline.

A.6	HOOK-UP WITH EXISTING PIPELINE/HOT WORK					
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Complete work for hook-up through welding required to interconnect the proposed pipeline with existing pipeline system in Singasandra- Krishnagiri Pipeline network, including excavation of pit as required to connect the proposed pipeline with existing pipeline system, cleaning ,removal of coating, cutting of pipe section through cold cutting Machine and Accessories, localized purging of nitrogen (if required), induction heating (if required) ,fabrication , welding, NDT of joints, Joint coating, backfilling & restoration as per specification & direction of engineer Incharge. The job is to be completed within Single Shut Down of max. 48 Hrs. duration from the moment of accomplishment of Inertisation after Gas Venting of Pipe Line Section (SV-1K & 2K) along with cut and replacement job at Ch. 14.2 KM.

A.6.1	Comp.Work for Hook-Up etc.24" Dia Joint	2	EA	1,500,000.00	3,000,000.00	YY
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Complete work for hook-up through welding required to interconnect the proposed pipeline with existing pipeline system in Singasandra- Krishnagiri Pipeline network, including excavation of pit as required to connect the proposed pipeline with existing pipeline system, cleaning ,removal of coating, cutting of pipe section through cold cutting Machine and Accessories, localized purging of nitrogen (if required), induction heating (if required) ,fabrication , welding, NDT of joints, Joint coating, backfilling & restoration as per specification & direction of engineer Incharge.

Note: Item envisaged above is for complete hook-up work required to be carried out to connect proposed pipeline with existing pipeline. Supply of all materials,consumables, equipment, labour, etc. and other incidental works;carrying out all temporary, ancillary, auxiliary works required for complete hook-up work as per specification and direction of EIC is under above item rate. Bidder has to quote accordingly.

A.7	RESTORATION OF ROADS					
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Restoration of asphalt / concrete / red stone roads / pavement/ pavor block including compaction of soil, to original condition as per requirement and to the entire satisfaction of EIC and / or concerned Owners having jurisdiction for following thickness.

Note: Obtaining NOC from concerned authorities is included in below item rate. Bidder has to quote accordingly.

A.7.1	Restor.of Concrete road upto 10 cm thk.	50	M2	2,500.00	125,000.00	YY
A.7.2	Restor.Concrete road 10to20cm thickness	60	M2	3,500.00	210,000.00	YY
A.7.3	Restoration of NH as per Morth Specific.	240	M2	1,500.00	360,000.00	

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Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
 Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A.8	BACKFILLING WITH SELECT SOIL					

A.8.1	Backfilling with Select Soil	50.000	M3	2,000.00	100,000.00	YY
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Unit rate over and above SOR 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.

A.9	PERMANENT MARKERS					
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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.

Note : Final quantities of Marker may vary. This may be confirmed by EIC before fabrication.

A.9.1	Pipeline Warning Signs	20	EA	8,000.00	160,000.00	
A.9.2	Right-of-way boundary markers	20	EA	2,500.00	50,000.00	
A.9.3	Kilometer Posts	2	EA	18,000.00	36,000.00	YY
A.9.4	Direction Markers	3	EA	8,000.00	24,000.00	
A.9.5	Aerial Markers	1	EA	18,000.00	18,000.00	YY

A.10	REPAIR OF DEFECTS IN LINE PIPE					
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REPAIR OF DEFECTS IN LINE PIPE AND PIPE COATING (ATTRIBUTABLE TO OWNER)

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.

A.10.1	Repair of Holiday in Coating	50	CM2	100.00	5,000.00	YY
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Repair of coating defects in 3-Layer PE Coating Line Pipe

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.

A.10.2	REPAIR OF DEFECTS IN PIPES					
A.10.2.1	Cutting and rebeveling	4	EA	5,000.00	20,000.00	YY

Cutting and rebeveling (dents / damage in bevels exceeding 3mm in depth)

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Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
 Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
A.10.2.2	Jack out	4	EA	100.00	400.00	

Jack out (dents in bevels ranging between 1mm and 3mm in depth)

A.11	LEAKS/ BURSTS (Attributable to Owner)					
A.11.1	Major Leak/ Bursts	1	LS	1,000.00	1,000.00	

Major leak (Detected by visual method) For pipeline size 609.6 mm (24") OD

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

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.

A.11.2	Minor Leak (Detected By Section.Method)	1	LS	1,000.00	1,000.00	
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Minor leak (Detected by sectionalizing method) For pipeline size 609.6 mm (24") OD

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

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.

A.12	VIDEOGRAPHY & PHOTOGRAPHY					
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Carrying out the videography & Photography of the pipeline section construction activities. The work shall be carried out in two phases.

A.12.1	Phase 1 & Phase 2	1.400	KM	200,000.00	280,000.00	YY
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Phase 1: Videography & photography of the entire route prior to construction activities i.e. pipeline route, hook-up point, all crossing like road / railways,nala,pond,canal river, etc.

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Phase 2: Videography & photography during construction activities of Mainline Works i.e. Stringing, Welding, Radiography, Joint Coating, Lowering, hook-up, Backfilling, restoration etc. performing all works as per specification and instructions of EIC and other provision of contract document.

Note: Videography & photography activities shall be as per specification and direction of EIC.

A.13	MAGNETIC CLEANING AND EGP					
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MAGNETIC CLEANING AND ELECTRONIC GEOMETRY PIGGING

A.13.1	Mobilisation/demob.pigging tools etc.	1.400	KM	800,000.00	1,120,000.00	YY
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Mobilization/demobilization 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, preparation of site report on pipeline, data analysis at Contractors facility as per specification and provisions of the Bid Document.

Note: Running of MGP & EGP tool up to the acceptance of final report is part of the above item rate. Bidder has to quote accordingly.

A.14	PRE-COMMISSIONING OF ENTIRE UG PIPELINE					
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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), 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.

A.14.1	Pre-commissioning of pipeline	1.400	KM	200,000.00	280,000.00	YY
A.14.2	Dewatering and swabbing	1.400	KM	200,000.00	280,000.00	

Dewatering and swabbing of pipeline including terminals / stations.

A.15	COMMISSIONING ASSISTANCE & COMMISSIONING					
A.15.1	PURG.NITROGEN,EXISTING UG PL NETWORK etc					

"Purging of Nitrogen for existing underground pipeline network to the specified acceptance criteria in-between SV-1K at Ch. 10.13 Km to SV-2K at Ch.17.112 km of Singsandra-Krishnagiri Pipeline including supply of all equipment, man-power, consumables (including nitrogen required for purging/filling) 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.

Payment of N2 supply will be made under the SOR item no (A.15.1.2)"

A.15.1.1	24" Pipeline	1,400	M	350.00	490,000.00	YY
A.15.1.2	Nitrogen supply	9,000.000	M3	150.00	1,350,000.00	
A.15.2	PROVIDING COMMISSIONING ASSISTANCE-24"PL	1.400	KM	100,000.00	140,000.00	YY

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Providing commissioning assistance during Gas in including supply of all equipment, manpower, etc., complete as per requirement of specifications, other provisions of contract document and instruction of Engineer In-charge.

A.16	DIGITIZATION OF RADIOGRAPHY FILMS					
A.16.1	Carry digitizat., radiographic films etc.	1	LS	200,000.00	200,000.00	

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/Pen Drive for electronic viewing /retrieval.

Note: In case, bidder performs radiography against AUT, Digitization of the same is also inclusive in the quoted rates.

A.17	LONG RADIUS BENDS					
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Supply of Long Radius Bends (R = 6D) for 24" dia.pipe, X-70 (thk. 15.1/15.9/17.5mm or higher) as per T.S. (No. GAIL/TS/05/62/015) & Data Sheet No. GAIL/23UU/05/28/M/001/DS-015 enclosed in Tender Document (Bare pipe for LR Bends shall be free issue to the contractor). In the event that a coated pipe is supplied by GAIL, the removal of the existing coating shall be carried out manually. The quoted rate must be inclusive of all costs associated with the coating removal process.

Note: The quantities of LR Bends may vary. For final quantity, approval shall be taken from EIC before order.

A.17.1	11° - 20°	8	EA	78,000.00	624,000.00	
A.17.2	21° - 30°	7	EA	88,000.00	616,000.00	
A.17.3	31° - 45°	3	EA	1,110,000.00	3,330,000.00	YY
A.17.4	46° - 60°	2	EA	120,000.00	240,000.00	
A.17.5	61° - 90°	2	EA	155,000.00	310,000.00	

A.18	TRANSPORTATION OF LINE PIPE					
A.18.1	Transportation Of Line Pipe	150,000	TPK	12.00	1,800,000.00	

"Receiving and taking over", handling, lifting, loading on trailers, transportation and unloading of Company supplied line pipe from Walayar, Kerala/Rajhamundry/Salem or nearby area as per direction of EIC. Payment for transportation of line pipe from GAIL yard to Contractor yard/Bend manufacturer, bend transportation from manufacturer yard to Construction yard. 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. No payment shall be done to Contractor for transportation of materials from Contractor Storage yard to working site and vice versa.

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

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Owner.

(iii) safe storage of linepipe up to the execution is included in above item rate. Bidder has to quote accordingly.

A.19	GROUND PENETRATING RADAR					
A.19.1	Carry.out subsurface utility survey etc.	1,000	M	100.00	100,000.00	

Carrying out subsurface utility survey along the proposed pipeline route and/ or as specified by Engineer-In-Charge for provided corridor (2-5 meter) using Ground Penetrating Radar (GPR) for depth upto 5m below the existing ground level to locate and identify all existing underground utilities/buried objects including but not limited to pipelines, sewers, conduits, cables, drains, manholes, appurtenances etc in the proposed corridor along with location, DGPS coordinates, depth, shape and dimensional details of utilities. Four (4) Copies of Report and Drawings incorporating all collected data shall be submitted as per scope of work and direction of the Engineer-in-charge. Scale of Drawing shall be Planimetry (X Axis 1:1000, Y Axis 1:100), Longitudinal Section (Z Axis 1:100) and Transverse Section at critical location.

Note :-

1.Survey Agency for execution of GPR Survey Work to be engaged by the Contractor shall be submitted for approval of GAIL/PMC prior to start of work.

2. GPR Work shall be carried in presence of Contractor's Representative.

A.20	PIPELINE LAY.LIASIONING(INCL.CROSS.) ETC					
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PIPELINE LAYING LIASIONING (INCLUDING CROSSINGS) AND GETTING CONSTRUCTION PERMISSION FROM THE STATUTORY AUTHORITIES(If Required)

Submitting request for (after obtaining the letter from client) permission , follow up , assisting in site inspections / route survey / site report making/making site inspection drawings , submitting at designated offices , resubmission after correction , modification if required , soft and hard copy in nos. as required /if required in sizes , and collecting permission from the statutory authorities including NHAI , PWD , Railways , Irrigation , Forest , Municipal Corporation, etc. Obtaining work permits /NOC from various statutory authorities having jurisdiction before execution of the work and complying with all stipulations /conditions/recommendations of the said authorities. Only statutory fees shall be paid by the owner.

A.20.1	For 24'' Pipeline	1,400	M	500.00	700,000.00	YY
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A.20.a)

Note: Obtaining NOC for restoration of NH and Concrete road is under separate item rate, however other Permissions/NOC's from statutory authorities as required is under above item rate. Bidder have to quote accordingly.

A.21	DE-COMM. ABANDONMENT,EXIST.PIPELINE SEC.					
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Complete work of carrying out abandonment and de-commissioning of the existing pipeline after disconnecting / isolating it from all sources and supplies of Natural Gas with positive isolation, venting of Natural Gas. Pigging with HDPE pigs by nitrogen. Completion of all above mentioned activities sealing the pipeline ends effectively by providing end caps or flange and blind flange. Supply of all consumables (i.e. nitrogen required

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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for pigging, pigs etc.) materials, deployment of required manpower and equipment, all temporary works and performing all associated works, complete as per the relevant code (OISD 226/GAIL CIMG Guidelines/other relevant code), specifications, approved procedures, other provisions of contract document and instructions of Engineer-in-charge. The contractor shall finally obtain a certification of successful decommissioning and abandonment of the pipeline

A.21.1	Existing 24" NB dia Pipeline section	1,100	M	200.00	220,000.00	
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Existing 24" NB dia Pipeline section from Ch.11.062 Km to Ch. 12.135 Km

A.22	PIPE MITIGATION NEAR HT ELEC. POLES					
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To prevent the transmission of fault current to nearby pipelines, the following protective measures shall be implemented when pipelines are in close proximity to HT electrical poles:

- Install concrete slabs.
- Apply an 8mm HDPE sheet.
- Use HT-grade coating.

A minimum protective cover of 2 meters, centered on the pole (i.e., 1 meter on either side), must be provided around the pipeline alignment.

A.22.1	Mitigation Measures Near HT Elec. Poles	25	EA	25,000.00	625,000.00	YY
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B	SECTION-B [TCP WORKS]					
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[TEMPORARY CATHODIC PROTECTION WORKS)]

B.1	SUPPLY OF TCP MATERIAL					
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Manufacturing, Inspection/FAT (Factory acceptance test), supply, Packing, insurance, transportation to site, storage at site (transportation of material from storage to site) following TCP material for design life of minimum 2 years as per standard specification No.- GAIL/S/05/E9/016A for temporary cathodic protection system, Scope of work/PJS, Data Sheets & tender drawings-

B.1.1	Supp.Prepacked Magnesium anodes	2	EA	35,000.00	70,000.00	YY
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Prepacked Magnesium anodes for Carrier Pipe protection (Min 5.0 Kg Each) as per tender specification.

B.1.2	Supply-TCP-Cables					
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Supply-TCP-Cables--The Cables shall be annealed high conductivity, stranded copper conductor, 650/1100V grade, XLPE Insulated & PVC Sheathed.

B.1.2.1	1c x 6 mm2, Anode tail cable, unarmored	40	M	400.00	16,000.00	YY
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1c x 6 mm2 - Anode tail cable - unarmored with tail cable connection

B.1.2.2	1core x 6 mm2, Armored	60	M	300.00	18,000.00	
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1 core x 6 mm2 - Potential Measurement, ref Cell & measurement cable- armored

B.1.2.3	1core x 10 mm2, armored	60	M	600.00	36,000.00	YY
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Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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1 core x 10 mm2 - current measurement cable & Pipeline to Test station- armored

B.1.3	Supply-Test Stations	2	EA	150,000.00	300,000.00	YY
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New test stations Normal Size-(Weather Proof with IP-55) as per tender drawings with name plate (AIL_Type,Potential Measurement with Pol. Coupon)

B.2	TCP WORKS (INSTALLATION, TEST.&COMMISS.)					
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Loading/Unloading, Installation, testing & commissioning of the Temporary Cathodic Protection system using Mg (Min 5.0 Kg Each) galvanic anodes to protect the external surface of 3LPE Coated pipe against corrosion for a design life of minimum 2 years as per standard specification No.- GAIL/S/05/E9/016A for temporary cathodic protection system, Scope of work/PJS, Data Sheets & tender drawings. Scope shall also include but not limited to the following for completion of jobs:

B.2.1	Inst.Prepacked Magnesium anodes	2	EA	35,000.00	70,000.00	YY
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Installation, Testing & Commissioning of Sacrificial anodes- Pre packed Mg anodes

Prepacked Magnesium anodes for Carrier Pipe protection (Min 5.0 Kg Each) as per tender specification.

B.2.2	Laying, Termination etc.TCP Cables					
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Laying, termination, Glanding and ferruling TCP-Cables -Cables shall be annealed high conductivity, stranded copper conductor, 650/1100V grade, XLPE Insulated & PVC Sheathed.

B.2.2.1	Lay.etc.1c x 6 mm2, Unarmored	40	M	400.00	16,000.00	YY
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1c x 6 mm2 - Anode tail cable - unarmored with tail cable connection

B.2.2.2	Lay.etc.1core x 6 mm2,Armored	60	M	300.00	18,000.00	
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1 core x 6 mm2 - Potential Measurement, ref Cell & measurement cable- armored

B.2.2.3	Lay.etc.1core x 10 mm2,armored	60	M	600.00	36,000.00	YY
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1 core x 10 mm2 - current measurement cable & Pipeline to Test station- armored

B.2.3	Inst.etc.Test Stn.with all Civil Mat.					
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Installation, Testing & Commissioning of Test Stations with all civil materials-

B.2.3.1	New test stations Normal Size	2	EA	150,000.00	300,000.00	YY
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New test stations Normal Size-(Weather Proof with IP-55) as per tender drawings with name plate (AIL_Type,Potential Measurement with Pol. Coupon)

B.2.3.2	All Cable to pipe connections etc.	6	EA	8,000.00	48,000.00	
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All Cable to pipe connections by Exothermic Process or Pin Brazing for all sizes (Upto 1C x 25mm 2) including supply of all material.

B.2.3.3	CIPS survey of the newly laid section.	1.200	KM	15,000.00	18,000.00	
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B.2.3.4	DCVG survey of the newly laid section.	1.200	KM	15,000.00	18,000.00	
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Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
C	SECTION-C [TELECOMMUNICATION WORKS]					

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. .

C.1	SUPPLY OF OFC and ACCESSORIES					
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SUPPLY OF OFC and ACCESSORIES (as per Technical specification GAIL/TS/05/E5/T/096).

C.1.1	Supply of 24 OFC composite SM ARMOURED	2,000	M	150.00	300,000.00	
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Supply of 24 fibre composite SM ARMOURED Optical fibre cable(18 Fibre G-652D and 6 Fibre G.655) (Qty as per pipeline length with spare) as per the PMC OFC TS No. GAIL/TS/05/E5/T/096 Any additional necessary requirements due to shorter length as per TS /Scope of work is in vendor scope.

C.1.2	Supply of Jointing Closures OFC	3	EA	50,000.00	150,000.00	YY
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Supply of Jointing Closures (suitable for 24 Fibre OFC) including all accessories of approved make of PMC only.(Planned Qty : 2 Nos , Spare Qty: 01 Nos)

C.2	Supply of 40 mm HDPE Telecom DUCT etc.	2,000	M	110.00	220,000.00	
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Supply of Permanently Lubricated Telecom HDPE Duct & Accessories as per PMC TECHNICAL SPECIFICATION No. GAIL/TS/05/E5/T/037.

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

C.3	SITE WORK	1	LS	50,000.00	50,000.00	YY
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SITE WORK (as per scope of work, specification no. GAIL/S/05/E5/T/001 of Bid documents)

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.

C.4	ERECTION OF HDPE DUCT AS PER SPEC.					
C.4.1	Inst.HDPE ducts in same P/L trench etc.	1,800	M	25.00	45,000.00	

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 defined 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 ends of the river bank, jointing of HDPE conduit, supply and installation of all erection

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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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/handling 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. Weight coating will be made as per other relevant SOR item; however, installation of the same is covered in this SOR.)

Backfilling shall be as per standard practices and to the satisfaction of authorized representative. All required restoration work subsequent to laying, testing, and backfilling shall be carried out, including surface levelling, compaction, reinstatement of roads, pavements, and other affected structures, ensuring the site is restored to its original condition or as directed by the client.

C.4.2	Supp.OFC Blowing Pits/Jointing Pit	2	EA	35,000.00	70,000.00	YY
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Supply of OFC Blowing pits / Jointing pit (RCC pit as per PMC dwg (at 450mm away from the main pipeline), including sand etc all complete as per spec for all BP/JP, drawing provided in the bid document.

C.4.3	Blowing / Laying of Optical Fiber Cable					
C.4.3.1	All act.pertaining to Blow./Lay.OFC	1,800	M	50.00	90,000.00	

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 PMC Technical specification GAIL/TS/05/E5/T/096

C.4.3.2	Supp.& Instl.,300 Dia OFC Cable Markers	2	EA	6,000.00	12,000.00	
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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.

C.4.3.3	Splicing, Jointing of OFC etc.	2	EA	35,000.00	70,000.00	YY
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Splicing, Jointing of optical fiber cable with the existing laid fibre , 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.

C.4.3.4	Supply & Installation of Joint Markers	2	EA	10,000.00	20,000.00	YY
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Supply and installation of Joint Marker at all jointing locations as per PMC's drawing all complete as per spec., drawing provided in the bid document and the direction of consultant.

C.4.4	Supp.Instl.,Comg. Electr.Markers System					
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Supply, Installation & Commissioning of Electronic Marker System as per specification , test certificate and documents etc. consisting of :

C.4.4.1	Supp.Instl.&Comm.of Electronic Markers	3	SET	30,000.00	90,000.00	YY
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Electronic Markers (To be buried underground along with OFC Joints at all jointing location) (planned 02 nos spare 01 nos)

C.4.4.2	Supp.Instl.&Comm.of Electronic Mark.Loc.	1	SET	35,000.00	35,000.00	
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Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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Electronic Marker Locator and accessories (Including probe and locator electronics)

C.4.5	Works req.integ.laid OFC&exist.OFC etc	1	LS	150,000.00	150,000.00	YY
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All works required for integration of the laid optical fibre cable with the existing optical fibre cable including identification of the existing optical fibre cable, trenching, making cut in existing Optical fibre cable, connecting the laid Optical fibre cable with the existing optical fibre cable etc., complete in all respect as per the tender and as per the direction of EIC.

C.4.6	Testing of Optical Fibre Cable	1	LS	200,000.00	200,000.00	YY
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Testing of Optical Fibre Cable

Test of each fibre for the smooth operation system on wavelengths, OTDR Test of the laid complete OFC (OFC laid by bidder and existing OFC between two stations), 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 Client/ other contractor and as per the direction of Engineers in charge, as per specification & contract agreement. For Testing & Termination details, Refer PJS .

D	SECTION-D(EARTHWORK)					
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D.1	Sup&filling in plinthwithsand,wateri etc	563.000	M3	600.00	337,800.00	
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Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete

D.2	Providing and laying cement concrete	69.000	M3	8,000.00	552,000.00	
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Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing:1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)

D.3	Reinforced Cement Concrete Works					
D.3.1	Providing & laying in position ready mix	345.000	M3	1,000.00	345,000.00	

Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. All works upto plinth level. Concrete of M25 grade with minimum cement content of 330 kg /cum

D.3.2	Steel reinfrcmnt R.C.C. work grd Fe500D	31,007.000	KG	10.00	310,070.00	
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Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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E	SECTION-E(CUT & REPLACET @ CH14.2KM)					
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E.1.a)Cut & Replacement of Pipe spool (Minimum of 2.0 meter) _Under Ground Pipe Line _Km Ch14.2 of 24" SKPL as per SOW & Tender Document: Cutting and replacement of 24" pipeline ,Shifting of machinery,Trenching,shuttering, dewatering(if required), Cutting and replacing with suitable pipe spool,Alignment, Recoating of pipe

E.1.b)Mobilization & Demobilization: Mobilization to site as per tender document including mobilization of all applicable machineries (required for shut down job) in one (1) day advance before Day of gas venting i.e along with all machineries , tools, tackles, consumables, service crew etc i.e whatsoever and whomsoever are required for

successful accomplishment of the permanent mitigation job as per tender document & Demobilization after successful accomplishment of the permanent mitigation activities as per Tender Document

E.1.c)Demolition of Concrete Valve Pit:Break the concrete structure using appropriate equipment (e.g., jackhammers, excavators with breakers).Ensure safety measures are in place to protect nearby assets and personnel. Remove embedded components (valves, supports, etc.) carefully if salvageable.

E.1.d)Disposal of Debris: Segregate concrete debris from metal and other materials. Transport debris to an approved disposal site as per environmental norms. Maintain disposal records for audit and compliance.

E.1.e)Backfilling and Levelling:Use suitable backfill material (e.g., sand, murrum, or excavated soil if reusable).Compact in layers (usually 150#300 mm thick) using vibratory compactors. Ensure compaction meets required density (Proctor test may be applicable). Grade the surface to match surrounding terrain.

Ensure proper drainage and avoid water stagnation. Final surface may be topped with gravel, soil, or paved depending on site requirements.

E.1	Cut&Replacement of min 2 mtr pipe spool	1	LS	2,000,000.00	2,000,000.00	
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Cut & Replacement of minimum of 2 Meter (/As per Site assessment) Pipe Spool (of Pre-Tested Pipe, Free Issue Material by GAIL) _For Attending Pipeline Mitigation Work of 24" Diameter Natural Gas Pipeline _Under Ground Pipe Line _Km Ch 14.2. This job is inclusive of but not limited to activities mentioned in the SOR , but also include all the activities as required in accordance with Tender Document for successful accomplishment of replacement of minimum of 2 meter of pipe spool in totality by deployment of tools, machineries, consumables , service crew etc including their transportation during site execution, deployment of competent operators, material shifting etc i.e. whatsoever and whomsoever is required for successful accomplishment of the job in totality within 48 hours duration from the moment of accomplishment of Inertisation after Gas Venting (hot job with existing pipe to be executed on round the clock basis) and make the 24" SKPL ready for commissioning as per Tender Document , approved work procedure by GAIL/GAIL appointed PMC as per site requirement.

Broad outline of activities (Ref SOW & Tender Document for detail) are inclusive of:

1. Jobs to be taken up before starting of hot jobs

i. Submission and obtaining approval of work procedure including preparation and submission of WPS with PQR etc as applicable & required for the job as per tender document, along with EQT for the Electrodes etc to be deployed, Welder qualification record etc as per approved WPS within 10 days of LOA, as per tender

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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document. All the job to be executed as per approved work procedure by GAIL appointed PMC, Tender Document.

ii. Trenching to required depths by excavation in all types of soils(using hydraulic excavator & manual excavation) including hard rock (using portable pneumatic rock breaker) , chiseling or otherwise etc. as required (including manual excavation once 0.8 meter depth of cover is reached) to make the working pit (app dimension 5 meter width x 4 meter depth / as required for smooth execution of the job as per site assessment) & further exposing the pipe up to length suitable for pipe line alignment [app 12 m length on either side w.r.t mitigation spot (Total app 24 meter length / as required for smooth execution of the job as per site assessment for proper alignment & implementing effective best measures as per site assessment to achieve stress free fit up etc.)] and storing excavated soil, reusable materials at designated area etc as per site requirement to create sufficient working space . This Earth Excavation to also include preparing a deeper pit away from the work location & maintaining slope , so that all the ingressed water (including under ground water ingress) of the work location within the ditch can flow naturally to such excavated deep pit (from which dewatering to be done) to make the work location accessible & readily available during execution of mitigation activities at site .Such all earth excavation activities to be done well in advance & the working pit is to be prepared and made ready in all aspect , at least two (2) days advance before shut down of the 24" SKPL (within SV-1K & SV-2K stretch).

iii. Protection Measure of Working area of Excavated Pit / Trench: -

- Centering and Shuttering to prevent Earth Collapse of Excavated Pit/Trench
- Supply & installation of Rain Proof Water Shed by Tarpaulin & Bamboo structure above the working shed as required for smooth execution of the hot job by preventing entrance of Rain Water from sky into the trench / making workable environment within the pit area as applicable along with
- necessary symbols of Work in Progress Tag etc as Public Warning

iv. Temporary supporting of pipe to prevent undue shifting of the pipe after cutting

- with Wooden Sleeper-Jack arrangement at bottom of the pipeline at least 6 no of locations at both U/S & D/S w.r.t location of cutting of pipe (app. at 3 spots @ interval of 3 meter in both side i.e U/S & D/S)
- metallic jack with to be supported with Erected Shuttering structure etc & supporting the Pipe with aid of these jacks through wooden sleeper / blank on either side of the pipe (app. at 3 spots @ interval of 3 meter in both side i.e U/S & D/S) as per approved work procedure

v. Removal of coating on pipe of at both U/S & D/S location of replacement of pipe spool & Pin brazing of sufficiently long (min 25meter length for each of the connecting 6 copper cable) & flexible copper cables of min 25 sq mm with pipe, at min 5meter U/s and D/S w.r.t mark location of 2.5meter pipe spool at minimum Six Locations around pipe periphery. This connection at U/S & D/S of the pipe around periphery of pipe is intended for maintaining continuity of pipe and thereby minimizing polarization effect.

vi. Shifting of Pre-Tested Pipe issued by GAIL to Working Spot at site

vii. Marking on Pipeline & Hydrotested Free Issued Pipe (for stress free fit up)

viii. Preparation of Bevel End of One Side of the Hydrotested Pipe by Cold Cutting Machine including

ix. NDT inspection DPT, UT Flaw Detection for checking of lamination of the cut out & Bevelled end One Side Ready

x. Any other site-specific requirement to make the site ready for necessary hot work towards permanent mitigation, as per site specific requirement, tender document for maintaining site readiness in all aspect before the day of gas venting.

Item : 1 - RE-ROUTING & ASS.WORK FOR 24x1.4KM SKPL
Plant : 3181 - NG Transmis-KMPL-Karnataka- Karnataka (KAR)

S.No.	Short Description	Qty.	UOM	Rate	Amount	AHR *
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2. Broad Outline of Hot Jobs

- i. Holding 24" pipe with hydra at both u/s & D/s (w.r.t. position of Cold cutting) (i.e deployment of Two Hydra)
 - ii. Marking & Cutting for app 2.0-meter spool with Automated Cold Cutting Machine for 24 Inch pipe with 10.3 mm thickness, using Compressor of suitable capacity for Cold cutting operation along with coolant application. Readiness for other applicable tools Brass chisel, hack saw frame (min 24") with HSS blade (make Miranda etc), brass hammers etc to be kept ready for application as per site specific requirement during such cutting operation. Mud plug, bentonite application, as applicable inside cut out ends
 - iii. Cutting of the requisite pipe spool out of pre-tested pipe (free issue material by GAIL), as per site specific assessment,
 - iv. Erection & Full Welding of Stress Releasing Fixtures on the pipe spool as per approved work procedure at the time of purging period in accordance with tender document
 - v. Bevelling of all cut out four ends along with NDT inspection DPT, UT Flaw Detection for checking of lamination ; erection , fitment and alignment of the pipe spool (Deployment of one Heavy Duty Excavator with cab on rotating platform & fitted with excavator to be deployed) at site as per approved Work procedure , installation of External Clamp etc ; onward preheating , welding of pipes as approved WPS including NDT inspection :- DPT (after hot pass as applicable) , Radiography, UT Flaw Detection (Shear Wave) of Weld Joints. For both the welding joint, Radiography & UT Flaw detection report to be reviewed and accepted by ASNT Level III & subject to further acceptance by GAIL appointed TPI.
3. Coating application of cold tape (DENSO/ Equivalent make of Desired Length with 67% overlapping, with prior application of primer on pipe surface as per manufacturer specification etc), application of filler material as per approved procedure along with approved Insulator and holiday inspection on the, exposed pipe with due overlapping on parent pipe material to the satisfaction of GAIL/ GAIL appointed third party inspector.
4. Hooking up with the existing network and Backfilling with soft soil.
5. Restoration of site by removal of temporary supports, shifting of removed tap -off section, Remaining length of Hydrotested Pipe, etc to GAIL designated location and make the site readiness in all aspect to resume normalcy for pre-commissioning activity. This job to executed for successful Accomplishment of the job, as per SOW and Tender Document.

Work Order Item 00001 Basic Item Value : INR 68,664,270.00
(RUPEE SIXTY-EIGHT MILLION SIX HUNDRED SIXTY-FOUR THOUSAND TWO HUNDRED SEVENTY ONLY)
Item Specific Conditions :
Total Tax = 12,359,568.60
18 % IGST - Non Cenvatable-(IC)
Total item value including taxes & duties : INR 81,023,838.60

Total estimated contract value excluding all tax and duties : 68,664,270.00
(RUPEES SIX CRORE EIGHTY-SIX LAC SIXTY-FOUR THOUSAND TWO HUNDRED SEVENTY ONLY)

Vendor Code: 101030117
MAS CONSTRUCTIONS

LOA No. : GAIL/BLR25-66/5300046844/20134414/BBA
LOA Date : 02.02.2026

Total estimated contract value including all tax and duties : 81,023,838.60
(RUPEES EIGHT CRORE TEN LAC TWENTY-THREE THOUSAND EIGHT HUNDRED THIRTY-EIGHT & PAISE SIXTY ONLY)

*Service items marked YY under AHR column are AHR items. Any service item marked #Y or Y# confirmation is required from authorized dealing officer who shall be final authority regarding AHR declaration. However, service items marked #Y or Y# shall be treated as AHR unless confirmed Non-AHR by dealing officer.

Signature Not Verified

Digitally signed by Bishar Bin Ali
Date: 2026.04.29 12:14:16 IST
Location: eProcurement System for
Central PSUs