



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय)

National Highways Authority of India

(Ministry of Road Transport & Highways)

कार्यालय क्षेत्रीय अधिकारी, आंध्र प्रदेश क्षेत्र

Office of the Regional Officer, Andhra Pradesh Region

प्लॉट.क.२१, टीचर्स कॉलोनी, गुरुनानक नगर मार्ग, विजयवाड़ा-५२० ००८, आंध्र प्रदेश

Plot No.21, Teacher's Colony, Gurunanak Nagar Road, Vijayawada-520 008. A.P.

टेली / Tele : 0866-2483910

ई-मेल / E-mail : rovijayawada@nhai.org
nhairovja@gmail.com



भारतमाला
प्रगति के पथ पर अग्रसर
BHARATMALA
ROAD TO PROSPERITY

Lr.No.NHAI/RO-VJA/TPTY/NOC/2016/936

Dt.30.04.2021

To,

The Sr. Technical Director,
NIC, Transport Bhawan,
New Delhi- 110001.

Sub: Regional Office - Vijayawada - Grant of permission for laying of underground R-LNG Pipeline (ETBPNMTPL) along with Optical Fibre Cable (OFC) across NH-4 (New NH-40) at Km 150.623 between Gopalapuram to Reddigunt, Anupalli (V), Chittoor (M) and across NH-4 (New NH-69) at Km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) in Chittoor District in the State of Andhra Pradesh.- Public comments - Reg.

Sir,

Please find enclosed herewith a proposal of M/s. IOCL seeking permission for laying of underground R-LNG Pipeline (ETBPNMTPL) along with Optical Fibre Cable (OFC) across NH-4 (New NH-40) at Km 150.623 between Gopalapuram to Reddigunt, Anupalli (V), Chittoor (M) and across NH-4 (New NH-69) at Km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) in Chittoor District in the State of Andhra Pradesh..

2. As per MORTH guidelines vide letter No. RW/NH-33044/29/2015/S&R® dated 22nd November 2016, the application along with the recommendation of PD, PIU-Tirupati are enclosed herewith with a request to host the same in the Ministry's website for 30 days seeking claims and objections (on grounds of public inconvenience, safety and general public interest), for taking further necessary action.

Encl: As above

Yours faithfully,

(R.K. Singh),
Regional Officer

Copy to: (i) PD, PIU - Tirupati
(ii) M/s. IOCL



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय)

National Highways Authority of India

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कार्यालय क्षेत्रीय अधिकारी, आंध्र प्रदेश क्षेत्र

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प्लॉट.क.२१, टीचर्स कॉलोनी, गुरुनानक नगर मार्ग, विजयवाड़ा-५२० ००८. आंध्र प्रदेश

Plot No. 21, Teachers' Colony, Gurunanak Nagar Road, Vijayawada-520 008. A.P.

Lr. No. NHAI/RO-VJA/TPY/NOC/2016/137 Dt. 30.04.2021

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भारतमाला
प्रगति के पथ पर अग्रसर
BHARATMALA
ROAD TO PROSPERITY

INVITATION OF PUBLIC COMMENTS

Sub: Regional Office - Vijayawada - Grant of permission for laying of underground R-LNG Pipeline (ETBPNMTPL) along with Optical Fibre Cable (OFC) across NH-4 (New NH-40) at Km 150.623 between Gopalapuram to Reddigunts, Anupalli (V), Chittor (M) and across NH-4 (New NH-69) at Km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) in Chittor District in the State of Andhra Pradesh.- Public comments - Reg.

The Project Director, PIU - Tirupati submitted a proposal of M/s. IOCL seeking grant of permission for laying of underground R-LNG Pipeline (ETBPNMTPL) along with Optical Fibre Cable (OFC) across NH-4 (New NH-40) at Km 150.623 between Gopalapuram to Reddigunts, Anupalli (V), Chittor (M) and across NH-4 (New NH-69) at Km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) in Chittor District in the State of Andhra Pradesh.

As per MORTH guidelines vide letter No. RW/NH-33044/29/2015/S&R® dated 22nd November 2016, the Highway Administration will put out the application along with observations of RO on the proposal in the Ministry's website for 30 days seeking claims and objections (on grounds of public inconvenience, safety and general public interest).

In view of the above, the comments of public, if any, on the above mentioned proposal is invited on below mentioned address.

Regional Officer - Vijayawada,
National Highways Authority of India,
Plot No. 21, Teachers' Colony, Gurunanak Nagar Road,
Vijayawada, Andhra Pradesh. Pin: 520 008.
Email: rovijayawada@nhai.org


(R.K. Singh),
Regional Officer



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सडक परिवहन और राजमार्ग मंत्रालय)

National Highways Authority of India

(Ministry of Road Transport & Highways)

परियोजना कार्यान्वयन इकाई, डी.नं. : 23/3/39/501, 5th मंजिल, धनलक्ष्मी नगर, वैकुण्ठपुरम रोड, एमआर पल्ली, तिरुपति- 517 507
Project Implementation Unit, D.No. 23/3/39/501, 5th Floor, Dhanalakshmi Nagar, Vykuntapuram Road, MR Palli, Tirupati - 517 507

Ph No : 0877-2245060
email : nhaitirupati@gmail.com
piutirupati@nhai.org



Page 1 of 5

BHARATMALA
ROAD TO PROSPERITY

*Post
D.M. - TON*

NHAI/PIU-TPT/11011/27/NH-4/OFC-Sl.No.15/2021/008

Dated: 01.04.2021

To,
The Regional Officer
National Highways Authority of India,
Vijayawada.

Sir,



Sub: NHAI -PIU-Tirupati: Rehabilitation and up-gradation of NH-4 from Km. 133.360 to Km. 216+912 (Total Length of 83.55 km) from Nalagampalli to Allukuppam (AP/KA Boarder) to Four laning under NHDP Phase-IV in the state of Andhra Pradesh on EPC mode- (RoW) Permission for laying underground R-LNG Pipeline (ETBPNMTPL) along with Optical Fibre Cable (OFC) across NH-4 at km 150+623 between Gopalapuram to Reddigunta, Anupalli (V), Chittoor (M) and at km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) Chittoor District - In Principle Approval recommended- regd.

Ref: 1. IOCL, Chittoor Lr.No.SRPL/CTR/TBPL/NH Crossing Dt.17.03.2021
2. T/o Lr No. NHAI/PIU-TPT/11011/27/NH-4/2021/1380, Dt 18.03.2021
3. AE Lr No. AA/NHAI/CTR/PI/2119/20-21/1977 Dt 20.03.2021
4. NHAI HQ Letter No.NHAI/NH-4/Nalagampalli/2016-17/134301 Dt.03.05.19

This is in reference to the subject cited above, wherein M/s. IOCL had submitted a proposal requesting grant of Permission for laying underground R-LNG Pipeline (ETBPNMTPL) along with Optical Fibre Cable(OFC) across NH-4 at km 150+623 between Gopalapuram to Reddigunta, Anupalli (V), Chittoor (M) and at km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) Chittoor District vide reference 1st cited.

2. Vide reference 2nd cited, the proposal had been forwarded to AE, (Team Leader of M/s Aarvee Associates) to inspect the site, verify proposal in accordance to the MoRT&H guidelines vide Lr.No.RW/NH-33044/29/2015/S&R(R), dated 22.11.2016. Accordingly, AE vide reference 3rd cited had submitted their recommendation to grant permission for the subject work.

3. In this connection, the proposal submitted by M/s.IOCL was examined and the following are furnished herewith:

- (i) Check list
- (ii) Schematic of the project
- (iii) Methodology of HDD crossing
- (iv) Cross Section drawing
- (v) License deed
- (vi) License fee estimate
- (vii) Affidavit
- (viii) Undertaking
- (ix) Certificate
- (x) Power of Attorney of the authorized signatory
- (xi) Copy of Board approval

Village	Proposed location of OFC	Remarks
Anupalli Village	150+623	Crossing
Palamaner Village & Mandal	192+971	Crossing
	Total	

4. Laying of R-LNG Pipeline (ETBPNMTPL) along with OFC Work shall be carried out in co-ordination with the representatives of Contractor and Authority's Engineer with intimation to NHAI.

5. While laying the R-LNG Pipeline (ETBPNMTPL) along with OFC Cable the already fixed boundary pillars shall be taken as a reference.

6. Further as per Clause 9.3 of EPC Agreement "The Contractor shall allow, subject to such conditions as the Authority may specify, access to, and use of the site for laying telephone lines, water pipes, electrical cables or other public utilities. Where such access or use causes any financial losses to the Contractor, it

may require the user of the site to pay compensation or damages as per applicable laws.

7. Applicant had informed that various safety clearances referred in point no.4 of MoRT&H guidelines are not obtained as the same are not applicable to OFC lines but are applicable for electricity lines/ Gas/ Oil pipelines.

8. In this regard, it is to point out that AE M/s.Aarvee vide letter 3rd cited above had informed that the approval for subject proposal may be accorded subject to consent to bear 50% of COS cost of two box culverts.

9. In this regard, it is submitted that NHAI HQ vide para (ii) of letter 4th cited had to confirm whether IOCL is ready to bear the 50% cost of COS amount on account of utility crossing for IOCL pipeline in Palamaneru bypass. This Office vide letter No.NHAI/PIU-TPT/11012/NH-4/NLG-KB/2018/198 Dt.10.05.2019 (copy appended) had addressed IOCL for consent to bear 50% of COS for said box culverts (2 Nos.) But IOCL denied for bearing the 50% cost and inturn addressed NHAI to pay crossing permission charges of Rs.95.54 lakhs and Insurance of Corporation's pipeline for a minimum value of Rs.2.5 Crores (copy of letter appended). Hence, competent authority may kindly be taken up the issue at higher level and decision may be conveyed for compliance.

8. In view of the above, the proposal submitted by M/s. IOCL has been verified in accordance with Guidelines of MORT&H Norms Circular F. No. RW/NH-33044/29/2015/S&R(R), dated 22.11.2016. The proposal along with the copies of all the above mentioned documents is herewith forwarded and requested to put out in public domain for 30 days for seeking claims and objections (on grounds of Public inconvenience, safety and general public interest) as per Para (4) of MoRT&H circular guidelines dt 22.11.2016

9. In this connection, it is requested and recommended to the Competent Authority to accord approval for granting permission to lay OFC cable by M/s. IOCL for crossings at km 150+623 between Gopalapuram to Reddigunta, Anupalli (V), Chittoor (M) and at km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) Chittoor District, Andhra Pradesh.

Yours faithfully



(Sujeet Kumar)


IDSE

GM (T) & Project Director
NHAI, PIU-Tirupati

Encl : As above

CERTIFICATE

1. Undersigned has examined the proposal of applicant for granting permission to lay Optical Fibre Cable (OFC) crossings at km 150+623 between Gopalapuram to Reddigunta, Anupalli (V), Chittoor (M) and at km 192.971 between Palamaner to Bangarupalem, Palamaner (V&M) Chittoor District, Andhra Pradesh and confirms all the standard conditions satisfied which are issued by Ministry Circular F.No.RW/NH-33044/29/2015/S&R(R), dated 22.11.2016.
2. It is certified that there will not be hindrance to the 4-laning, if it needs immediate shifting or re-location of OFC cable by the agency at their cost as per the undertaking given by the agency.
3. It will be ensured that supervision of the work of laying of utility and ensured that the defects in road portion if any, after laying of utility are corrected.
4. It will be ensured that proposed permission is entered in the register of records.
5. The record of previous proposal accorded has been enclosed with the approval.



(Sujeet Kumar)

IDSE

GM (T) & Project Director
NHAI, PIU-Tirupati



MHA-CTR-TBPL		
No.	1899	
Date:	12 MAR 2021	
PD		
LAO	1	2
PA		
SE	1	2
	3	4
ACCNT.		

इंडियन ऑयल कार्पोरेशन लिमिटेड

दक्षिणी क्षेत्र पाइपलाइन्स

चेन्नै - बेंगलुरु पाइपलाइन

चित्तूर पम्पिंग - सह - डिलीवरी स्टेशन, गुडियाथम रोड

यादमरि (पोस्ट) - 517422 चित्तूर (जिला) आ.प्र. इंडिया

दूरभाष : 08572-256028 फैक्स : 08572-256246

Indian Oil Corporation Limited

Southern Region Pipelines

Chennai - Bengaluru Pipeline

Chittoor Pumping - cum - Delivery Station, Gudiyatham Road

Yadamari (Post) - 517 422 Chittoor (Dist.) A.P. INDIA

Tel : 08572-256028 Telefax : 08572-256246



IndianOil

पाइपलाइन प्रभाग
Pipelines Division

SRPL/CTR/TBPL/NH Crossing

17.03.2021

General Manager (Tech) & Project Director,
National Highways Authority of India
Project Implementation Unit - Tirupati 517507

Sub: Requisition for obtaining Crossing permission for laying of "Thiruvallur to Bangalore section of Ennore-Thiruvallur-Bangalore-Puducherry-Nagapattinam-Madurai-Tuticorin underground R-LNG Pipeline (ETBPNMTPL) project" along with Optical Fibre Cable across NH-4 at 150.623 Km between Gopalapuram to Reddigunta, Anupalli(Village), Chittoor(Mandal) and at NH-69 at 192.971 Km between Palamaner To Bangarupalem, Palamaner (Village & Mandal), Chittoor district in the state of Andhra Pradesh.

Dear Sir,

M/s Indian Oil Corporation Ltd, a fortune global 500 company and Maharatna, is a leading public sector undertaking and a pioneer in Cross County Pipeline Construction and Operations in India. IOCL has successfully built and is safely operating approx. 14,600 km of product, crude oil & gas pipeline across the length and breadth of the country.

The Petroleum & Natural Gas Regulatory Board (PNGRB) has authorized IOCL for laying, building & operating 1250 km long Ennore-Thiruvallur-Bangalore-Puducherry-Nagapattinam-Madurai-Tuticorin underground R-LNG Pipeline which will evacuate R-LNG from the Ennore LNG terminal & will deliver natural gas to the Industrial anchor customers located across Tamil Nadu, Puducherry, Andhra Pradesh and Karnataka states. The estimated cost of the project is Rs.6,025 crore & the initial capacity of the pipeline will be 34.67 MMSCMD(Million Metric Standard Cubic meter per day) which is expandable up to 84.67 MMSCMD over a period of 25 years. This pipeline will transport natural gas in environment friendly, safe, cost-effective & energy-efficient manner.

As a part of this project, a branch of pipeline will be laid from Thiruvallur to Bengaluru (TBPL) for a length of 297 km. This proposed TBPL Pipeline is crossing at NH-4 at 150.623 Km between Gopalapuram to Reddigunta, Anupalli (Village), Chittoor (Mandal) and at NH-69 at 192.971 Km between Palamaner To Bangarupalem, Palamaner (Village & Mandal), and Chittoor district in the state of Andhra Pradesh. For these crossing locations, IOCL had obtained NH crossing permission for the said locations from R&B, NH division Chittoor in Dec'17. It may be noted that the permission

पंजीकृत कार्यालय : इंडियन ऑयल भवन, जी-9, अली यावर मार्ग बांद्रा (पूर्व), मुम्बई - 400 051, महाराष्ट्र (भारत)
Regd Office : Indian Oil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai-400 051 Maharashtra (India)
CIN - L23201MH1959GOI011388

was applied in consultation with NHAI. Subsequently, vide letter Ref No SRPL/CTR/ETBPNMTPL/GEN/11.0 dated 05.03.2020 work commencement intimation was given to R&B, Chittoor. During execution of the crossing, NHAI officials have informed us to stop the work. It is understood during the discussions held at your good office on 16.03.2021, that NHAI has taken over these roads in November 2017 from R&B Division and fresh permission is to be obtained. It may presently be noted that works have been stopped due to this.

In view of the above, we are hereby submitting fresh application for granting NH crossing permission from NHAI, Tirupati.

The Pipeline will be laid across NH by Horizontal Directional Drilling method (trenchless method) and the Pipeline design and construction shall conform to International Standard ASME B 31.8 and API 1102. In this method the entry and exit points of the crossing will be outside the road ROW limits and the depth of the pipeline from the C/L of the road shall be minimum 10m.

The following documents along with application are enclosed for your kind perusal:

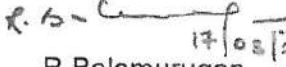
- | | |
|---|---------------|
| 1. Checklist | - Annexure-A |
| 2. Schematic of the Project | - Annexure-B |
| 3. Methodology of HDD crossing | - Annexure-1 |
| 4. Cross section drawing | - Annexure- 2 |
| 5. License deed | - Annexure- 3 |
| 6. License fee estimate | - Annexure- 4 |
| 7. Affidavit | - Annexure- 5 |
| 8. Undertaking | - Annexure- 6 |
| 9. Certificate | - Annexure- 7 |
| 10. Power of Attorney of the authorized signatory | - Annexure- 8 |
| 11. Copy of Board approval | - Annexure- 9 |

This pipeline is essential to evacuate the product from the Ennore LNG terminal. This Pipeline project is of National Importance and is monitored by Project Monitoring Group (PMG) of Prime Minister's office (PMO) and at Ministry level for completion by April'21

Hence it is once again requested to kindly accord permission for laying proposed Pipeline along with Optical fibre cable across NH-4 & NH-69 Pipeline laying works at other locations are almost complete and works have been stopped at these crossing locations.

Thanking you,

Yours faithfully,


17/03/2021
R Balamurugan

Senior Construction Manager

Encl: As stated

CHECK LIST	
Guidelines for processing the proposal for laying petroleum product pipeline in the land across National Highway vested with MoRTH/NHAI	
Relevant circulars	
1.	Ministry circular No. NH-41(58)/68 dated 31-01-1969
2.	Ministry circular No. NH-III/P/66/76 dated 18-11-1976
3.	Ministry circular No. RW-NJ-III/P/66/76 dated 01-05-1982
4.	Ministry circular No. RW/NH-11037/1/86-DOI(II) dated 28-07-1993
5.	Ministry circular No. RW/NH-11037/1/86-DOI dated 19-01-1995
6.	Ministry Circular No.RW/NH-34066/2/95/S&R dated 25-10-1999
7.	Ministry Circular No.RW/NH-34066/7/2003 S&R (B) dated 17-09-2003
8.	Ministry Circular No.RW/NH-33044/29/2015/S&R(R) dated 22.11.2016

Checklist for getting approval for laying of petroleum pipeline on NH/MoRTH land

S.No.	Item	Information/Status	Remarks
1	General Information		
1.1	Name and address of the Applicant/Agency	Indian Oil Corporation Limited (Pipelines Division) Southern Region Pipelines, Construction Office, Chittoor Pumping – cum-Delivery Station, Gudiyatham Road, P.O.Yadamari – 517422, Chittoor Dist., Andhra Pradesh.	
1.2	National Highway Number	NH-4 & NH-69	
1.3	State	Andhra Pradesh	
1.4	Location	1.Gopalapuram to Reddigunta (NH-4) 2. Palamaner To Bangarupalem (NH-69)	
1.5	(Chainage in km)	1. Between KM Stone 150 & 151 at 150+623 km (Pipe line Chainage 112.727 Km) 2. Between KM Stone 192 & 193 at 192+971 km (Pipeline Chainage 151.183 km)	
1.6	Length in Kilo Meters	Across	
1.7	Width of available ROW	1.Gopalapuram to Reddigunta (NH-4) - 45 m 2. Palamaner To Bangarupalem (NH-69) – 60 m	
	(a) Left side from center line towards increasing chainage/km direction	1. 22.5m 2. 30 m	
	(b) Right side from centre line towards increasing chainage/km direction	1. 22.5 m 2. 30 m	
1.8	Proposal to lay underground petroleum pipeline for supply of petroleum products		

బాలామూర్తిగన.ఆర్
 BALAMURUGAN.R
 Senior Construction Manager
 INDIAN OIL CORPORATION LIMITED
 Southern Region Pipelines, Chittoor - Construction
 Gudiyatham Road, P.O Yadamari - 517 422
 Dist : Chittoor (A.P) INDIA

17/03/2021

	(a) Left side from center line towards increasing chainage/km direction	1. 22.5 m 2. 30 m	
	(i) Right side from centre line towards increasing chainage/km direction	1. 22.5 m 2. 30 m	
1.9	Proposal to acquire land		
	(a) Left side from center line	N.A	
	(b) Right side from center line	N.A	
1.10	Whether proposal is in the same side where land is not to be acquired	Yes	
	If not then where to lay the cable.	N.A	
1.11	Details of already laid services, if any along the proposed route	Chennai Bangalore Petroleum Product Pipeline (14inch)	
1.12	Number of existing lanes (2/4/6/8 lanes).	4 lanes	
1.13	Proposed number of lanes (2 lane with paved shoulders/4/6/8 lanes).	N.A	
1.14	Service road existing or not	NO	
	If yes then which side		
	(a) Left side from center line	NO	
	(b) Right side from center line	NO	
1.15	Proposed service road		
	(a) Left side from center line	N.A	
	(c) Right side from center line	N.A	
1.16	Whether proposal to lay the petroleum pipeline is after the service road or between the service road and main carriageway	Pipeline shall be laid across after the service road/truck lay byes/ Bus bays as the case may be	
1.17	Whether carrying of sewage/petroleum pipeline has been proposed on highway Bridges. If yes, then mention the methodology proposed for the same.	No pipeline is proposed on bridges.	
1.18	Whether carrying of sewage/petroleum pipeline has been proposed on the parapet/ any part of the bridges. If Yes, then mention the methodology proposed for the same.	No pipeline is proposed on parapet/any part of bridge.	
1.19	If crossings of the road involved If yes, it shall be either encased in pipes or through structure or conduits specially built for the purpose at the expenses of the agency owing the line	Yes, HDD Method. HDD is latest trenchless method without casing. It is safest and has no impact on surroundings. This method is being implemented for crossings of SH/NH/Railway/Major Rivers by pipelines all over the country. It has long life compared to cased crossing and is more reliable.	
	(a) Whether existing drainage structures are allowed to carry petroleum pipeline	No	
	(b) It is on a line normal to NH	Yes	

	(c) What is the distance of crossing the petroleum pipelines from the existing structures. Crossings shall not be too near the existing structures on the National Highway, minimum distance being 15 meter.	Complied	
	(d) The casing pipe(or conduit pipe in the case of electric cable) carrying the petroleum line shall be of steel, cast iron, or reinforced cement concrete and have adequate strength and be large enough to permit ready withdrawal of the carrier pipe/cable. Mention type of casing.	NA	
	(e) Ends of casing /conduit pipe shall be sealed from the outside, so that it does not act as a drainage path.	NA	
	(f) The casing/conduit pipe should, as minimum extend from drain to drain in cuts and toe of slope in the fills.	NA	
	(g) The top of the casing/conduit pipe should be at least 1.2 meters below the surface of the road subject to being at least 0.3 m below the drain inverts. Mention the proposed details.	NA	
	(h) Mention the methodology proposed for crossings of road for the proposed Sewage/petroleum pipe line. Crossings shall be by boring method (HDD) (Trenchless Technology), specially, where the existing road pavement is of cement concrete or dense bituminous concrete type.	Pipeline crossing will be done by HDD Method (which is trenchless method without the need for casing). It is safest and has no impact on surroundings. This method is being implemented for crossings of SH/NH/Railway/Major Rivers by pipelines all over the country. It has long life compared to cased crossing and is more reliable.	Annex-1
	(i) The casing/conduit pipe shall be installed with an even bearing throughout its length and in such a manner as to prevent the formation of a waterway along it.	NA	
2	Document/Drawings to be enclosed with the proposal		
2.1	Cross section showing the size of trench	NA	

Senior Construction Manager
 INDIAN OIL CORPORATION LIMITED
 दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - निर्माण
 Southern Region Pipelines, Chittoor - Construction
 Gudiyatham Road, P.O Yadamari - 517 422
 Dist : Chittoor (A.P) INDIA

R. G. C. 17/03/2024

	<p>for open trenching method (Is it normal size of 1.65m deep *0.5m wide)</p> <ol style="list-style-type: none"> Should not be greater than 60cm wider than the outer diameter of the pipe Located as close to the extreme edge of the right of way as possible but not less than 15m from the centre lines of the nearest carriageway Shall not be permitted to run along the National Highways when the road formation is situated in double cutting. Nor shall be laid over the existing culverts and bridges. These should be so laid that their top is least 0.6m below the ground level so as not to obstruct drainage of the road land. 		
2.2	Cross section showing the size of pit and location of pipeline for HDD method	Yes, Enclosed	Annex-2
2.3	Strip plan/Route plan showing the pipe line, chainage, width of ROW, distance of proposed pipe line from the edge of ROW, important mile stone, intersections, cross drainage works etc.	Strip Plan showing all the details is attached.	Annex-2
2.4	Methodology for laying of the petroleum pipe line.	Yes, Enclosed.	
2.4.1	Open trenching method. (May be allowed in the petroleum corridor only where pavement is neither cement concrete nor dense bituminous concrete type. If yes, what is the methodology of refilling of trench?	NA	
	(a) The trench width should be at least 30cm, but not more than 60 cm wider than the outer diameter of the pipe.	NA	
	(b) For filling of the trench, bedding shall be at a depth of not less than 30cm. it shall consist of granular material, free of lumps, clods and cobbles and graded to yield a firm surface without a sudden change in the bearing value. Unsuitable soil and rock edged should be excavated and replaced by selected material.	NA	

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	(c) The backfill shall be completed in two stages (i) side fill to level of the top of the pipe and (ii) overfill to the bottom of the road crust.	NA	
	(d) The side fill shall consist of granular material laid in 15cm layers each consolidated by mechanical tempering and controlled addition of moisture to 95% of the proctor's density. Overfill shall be compacted to the same density as the material that has been removed. Consolidation by saturation or ponding will not be permitted	NA	
	(e) The road crust shall be built to the same strength as the existing crust on either side of the trench. Care shall be taken to avoid the formation of a dip at the trench.	NA	
	(f) The excavation shall be protected by flagman, signs and barricades, and red lights during night hours.	NA	
	(g) If required, a diversion shall be constructed at the expense of agency owing the petroleum line.	NA	
2.4.2	Horizontal directional drilling (HDD) method.	Yes	
2.4.3	Methodology for laying of pipe line through CD works and method of laying. In cases where the carrying of petroleum pipe line on the bridge becomes inescapable.	No CD works are involved in laying of pipeline	
3	Draft license Agreement is signed by two witnesses	Yes, Enclosed	Annex-3
3.1	The license fee estimate as per Ministry's guidelines issued vide circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016	Enclosed	Annex-4
4	Whether performance Bank guarantee as per Ministry's circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016 is obtained	Undertaking for submission of BG has been obtained from M/s. IOCL	
4.1	Confirmation of BG has been obtained or not as per MoRTH/NHAI guidelines	Confirmation of BG shall be obtained after BG Submission by M/s. IOCL	
5	Affidavit/ Undertaking from the Applicant for the following is to be furnished		Annex-5
5.1	Undertaking for not to damage any other	Yes, Enclosed	

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	utility, if damaged then to pay the losses either to NHAI or to the concerned agency.		
5.2	Undertaking for Renewal of bank guarantee as and when asked by MoRTH/NHAI.	Yes, Enclosed	
5.3	Undertaking for confirming all standard condition of Ministry circulars and NHAI's guidelines.	Yes, Enclosed	
5.4	Undertaking for Indemnity against all damages and claims.	Yes, Enclosed	
5.5	Undertaking for management of traffic movement during laying of petroleum line without hampering the traffic	Yes, Enclosed	
5.6	Undertaking that if any claim is raised by the concessionaire/contractor then the same has to be paid by the applicant.	Yes, Enclosed	
5.7	Undertaking that prior approval of the NHAI shall be obtained before undertaking any work for installation, shifting or repairs, or alterations to the petroleum located in the National Highway right-of-way.	Yes, Enclosed	
5.8	Undertaking that expenditure, if any, incurred by NHAI for repairing any damage caused to the National Highway by the laying, maintenance or shifting of the petroleum line will be borne by the applicant agency owing the line.	Yes, Enclosed	
5.9	Undertaking that text of the license deed is as per verbatim of MoRTH format (issued vide Ministry's circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016	Yes, Enclosed	
5.10	Undertaking that the applicant has obtained various safety clearances from the representative authorities such as Directorate of Electricity, Chief controller of Explosives, Petroleum and Explosive safety Organization, Oil Industry safety Directorate, State/Central pollution control board and any other statutory clearances as applicable, before applying to Highway Administration	PCB Clearance is enclosed herewith. Petroleum and Explosives Safety Organization (PESO) approval for the Steel network can be applied to Chief Controller of Explosives only after mechanical completion and Hydrostatic testing of the line but before commissioning, as Hydro-testing report will be part of the submittal for obtaining PESO clearance. The approval will be submitted to NHAI after obtaining it. Electricity, OISD clearances are not applicable. Undertaking is being submitted. Gas transportation through pressure pipelines is done as per ASME B 31.8 guidelines.	Annex-6
5.11	If the MoRTH/NHAI consider it necessary	Yes, Enclosed	

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	In future to move the petroleum line for any work of improvement or repairs to the road, it will be carried out as desired by the MoRTH/NHAI at the cost of the agency owing the petroleum line within a reasonable time (not exceeding 60 days) of the intimation given.		
5.12	Certificate from the applicant in the following format (i) laying of Petroleum pipe line will not have any deleterious effects on any of the bridge components and roadway safety for traffic. (ii) "We do undertake that I/we will relocate service road/approach road/utilities at my/our own cost notwithstanding the permission granted within such time as will be stipulated by NHAI" for future six-lanning or any other development."	Enclosed	Annex-7
6	Who will sign the agreement on behalf of pipe line agency?	Senior Construction Manager Indian Oil Corporation Limited (pipelines division) TBPL section of ETBPNMTPL Natural Gas pipeline project, Chittoor.	
	Power of Attorney to sign the agreement is available or not	Yes, Enclosed	Annex-8
7	The project Director will submit the following Certificates		
7.1	Certificate that the proposal is confirming to all standard conditions issued vide Ministry's circular No: RW/NH-33044/29/2015/S&(R) dated 22.11.2016	Yes, Enclosed	
7.2	Certificate from PD in the following format (i)" It is certified that any other location of the Petroleum pipe line would be extremely difficult and unreasonable costly and the installation of Petroleum pipe line within ROW will not adversely affect the design, stability & traffic safety of the Highway nor the likely future improvement such as widening of the carriageway, easing of curve etc." (ii)for 6-lanning (a) Where feasibility is available "I do certify that there will be no hindrance to proposed six-laning	Yes, Enclosed	

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	based on the feasibility report considering proposed structures at the said location". (b) In case feasibility report is not available "I do certify that sufficient ROW is available at site for accommodating proposed six-lining".		
8	If NH section proposed to be taken up by NHAI on BOT basis – a clause is to be inserted in the agreement. "The permitted Highway on which License has been granted the right to lay Petroleum Pipeline/duct has also been granted as a right of way to the concessionaire under the concession agreement for up-gradation of [-----section from Km-----to km-----of NH no.----- on Build: operate and transfer basis] and therefore, the license shall honour the same."	N.A	
9	Who will supervise the work of laying of Petroleum pipe line.		
	(a) On behalf of the Applicant	Senior Construction Manager Indian Oil Corporation Limited (pipelines division) TBPL section of ETBPNMTPL Natural Gas pipeline project, Chittoor.	
	(b) On behalf of the MoRTH/NHAI	Project Director, NHAI, MoRTH, Tirupati	
10	Who will ensure that the defects in road portion after laying of Petroleum pipe line are corrected and if not corrected then what action will be taken.		
	(a) On behalf of the applicant	Senior Construction Manager Indian Oil Corporation Limited (pipelines division) TBPL section of ETBPNMTPL Natural Gas pipeline project, Chittoor.	
	(b) On behalf of NHAI	Project Director, NHAI MoRTH, Tirupati	
11	Who will pay the claims for damage done/disruption in working of concessionaire if asked by the concessionaire		
	On behalf of the applicant	Indian Oil Corporation Limited (pipelines division) TBPL section of ETBPNMTPL Natural Gas pipeline project, Chittoor.	
12	A certificate from PD that he will enter the proposed permission in the register of record of the permission in the prescribed proforma (copy enclosed)		


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R. S. Chandra
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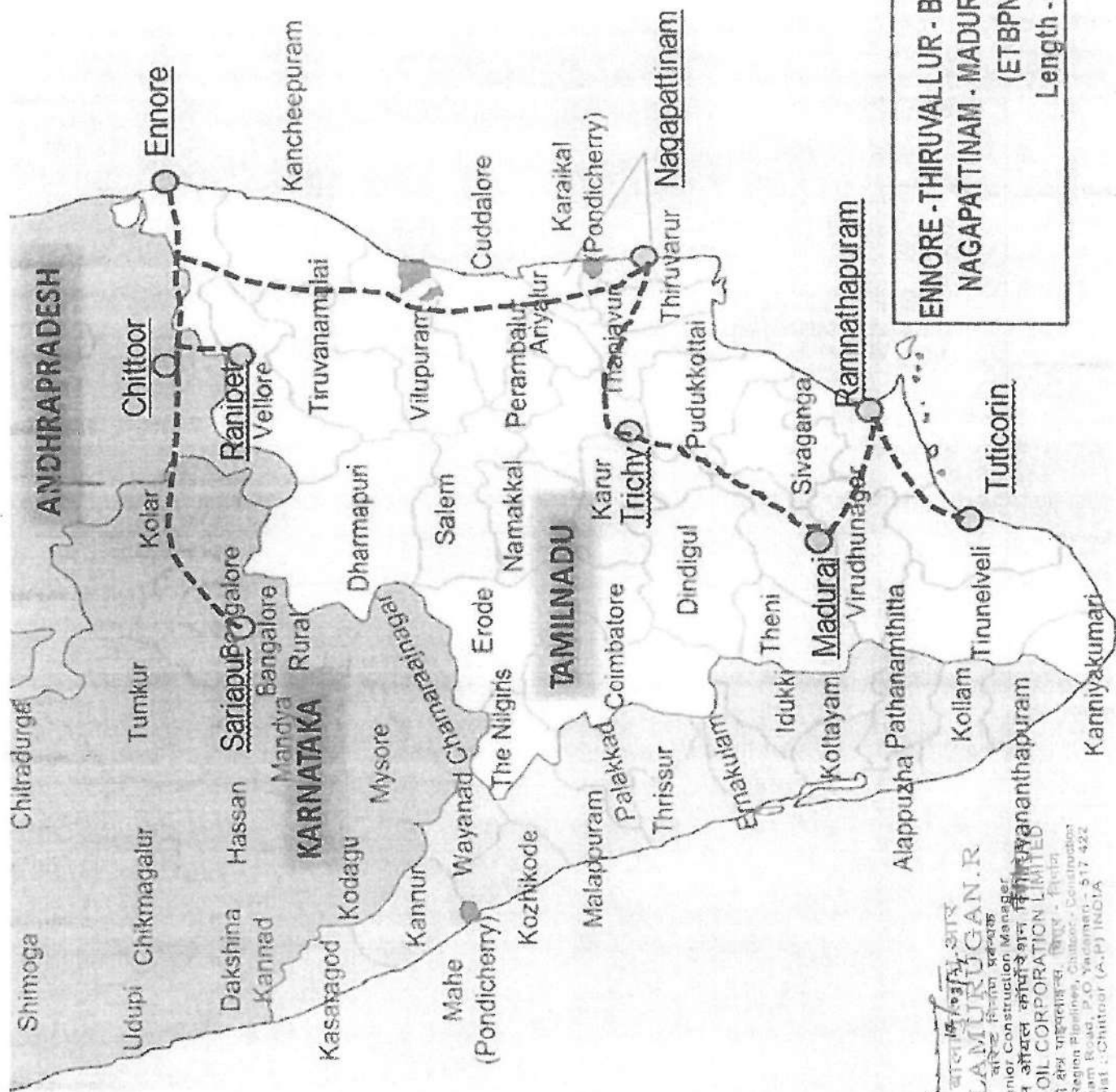
13	If any various approval is accorded for laying of underground Petroleum pipe line then Photocopy of register of records of permission accorded (as maintained by PD) be enclosed.	Yes. Board approval is enclosed.	Annex-9
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**ENNORE-THIRUVALLUR-BANGALORE-PUDUCHERRY-
NAGAPATTINAM-MADURAI-TUTICORIN PIPELINE
(ETBPNMTPL)
Length - 1250 Km**

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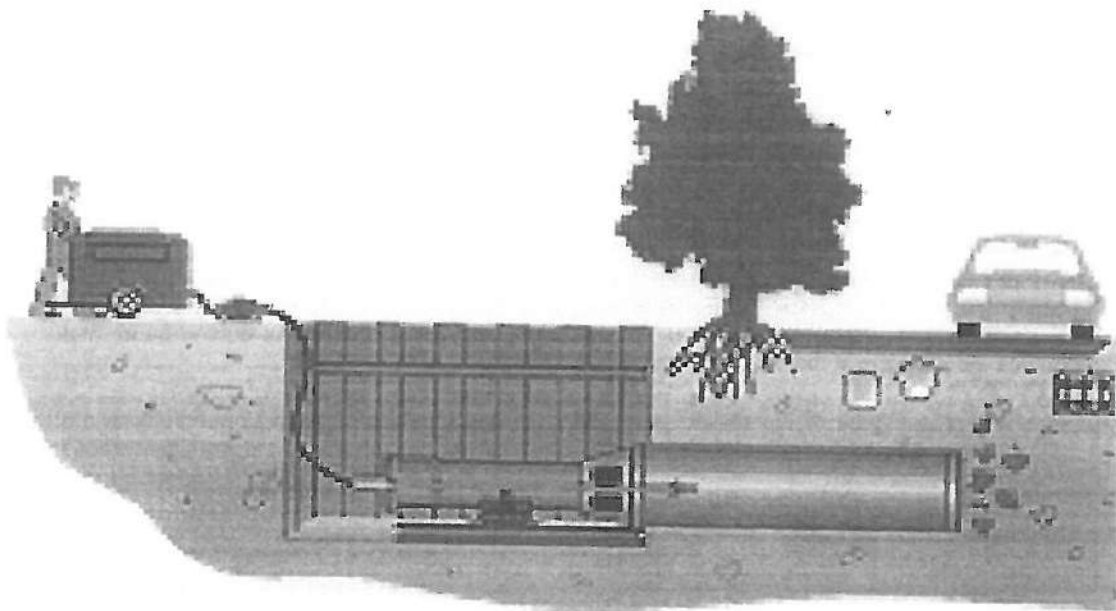


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Indian Oil Corporation Limited

CONSTRUCTION METHODOLOGY:

For laying underground pipeline
Crossing National highways by
Horizontal Boring Method



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HORIZONTAL DIRECTIONAL DRILLING

GENERAL

Horizontal Directional Drilling or HDD, is a steerable trenchless method of installing underground pipes, conduits and cables in a shallow arc along a prescribed bore path by using a surface launched drilling rig, with minimal impact on the surrounding area. HDD is used when trenching or open excavation is not possible/practical. Directional boring minimizes environmental disruption. It is suitable for a variety of soil conditions and jobs including road, landscape and river crossings. Pipes can be made of materials such as Steel, PVC, etc. if the pipes can be pulled through the drilled hole.

Technique

Directional boring is used for installing infrastructure such as telecommunications and power cable conduits, water lines, sewer lines, gas lines, oil lines, product pipelines and environmental remediation casings. It is used for crossing waterways, roadways, shore approaches, congested areas, environmentally sensitive areas, and areas where other methods are costlier. It is used instead of other techniques to provide less traffic disruption, lower cost, deeper and/or longer installation, no access pit, shorter completion times, directional capabilities, and environmental safety. The technique has extensive use in urban areas for developing subsurface utilities as it helps in avoiding extensive open cut trenches.

The method comprises a three stage process wherein first stage drills a pilot hole on the designed path and the second stage enlarges the hole by passing a larger cutting tool known as the back reamer. The third stage places the product or casing pipe in the enlarged hole. The directional control capabilities assist the rig operator in making necessary changes in the directions of the drilling head.

Horizontal directional drilling is done with the help of a viscous fluid known as drilling fluid. It is a mixture of water and, usually, bentonite or polymer continuously pumped to the cutting head or drill bit to facilitate the removal of cuttings, stabilize the bore hole, cool the cutting head, and lubricate the passage of the product pipe.

Location and guidance of the drilling is a very important part of the drilling operation, as the drilling head is under the ground while drilling and, in most cases, not visible from the ground surface.

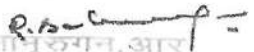
Advantages

HDD offers several advantages when compared to other trenchless construction methods:

- (a) Complicated crossings can be quickly and economically accomplished with a great degree of accuracy since it is possible to monitor and control the drilling operation.
- (b) Sufficient depth can be accomplished to avoid other utilities.
- (c) In river crossing applications, danger of river bed erosion and possible damage from river traffic is eliminated.
- (d) Requires only a small construction footprint.

The Horizontal Directional Drilling Process

The tools and techniques used in the horizontal directional drilling (HDD) process are an outgrowth of the oil well drilling industry. The components of a horizontal drilling rig used for pipeline construction are similar to those of an oil well drilling rig with the major exception being that a horizontal drilling rig is equipped with an inclined ramp as opposed to a vertical mast. HDD


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pilot hole operations are not unlike those involved in drilling a directional oil well. Drill pipe and downhole tools are generally interchangeable and drilling fluid is used throughout the operation to transport drilled spoil, reduce friction, stabilize the hole, etc. Because of these similarities, the process is generally referred to as drilling as opposed to boring.

Installation of a pipeline by HDD is generally accomplished in three stages as illustrated in Figure 1. The first stage consists of directionally drilling a small diameter pilot hole along a designed directional path. The second stage involves enlarging this pilot hole to a diameter suitable for installation of the pipeline. The third stage consists of pulling the pipeline back into the enlarged hole.

Pilot Hole Directional Drilling

Pilot hole directional control is achieved by using a non-rotating drill string with an asymmetrical leading edge.

It is common in soft soils to achieve drilling progress by hydraulic cutting with a jet nozzle. In this case, the direction of flow from the nozzle can be offset from the central axis of the drill string thereby creating a steering bias. This may be accomplished by blocking selected nozzles on a standard roller cone bit or by custom fabricating a jet deflection bit. If hard spots are encountered, the drill string may be rotated to drill without directional control until the hard spot has been penetrated.

Pre-reaming

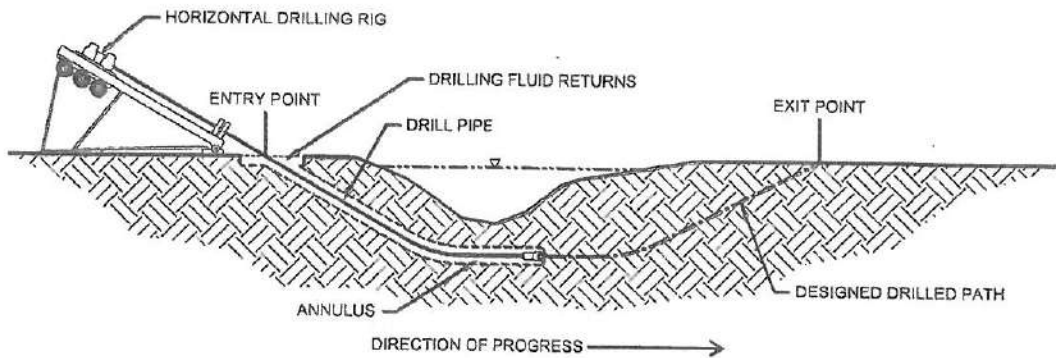
For a pre-reaming pass, reamers attached to the drill string at the exit point are rotated and drawn to the drilling rig thus enlarging the pilot hole. Drill pipe is added behind the reamers as they progress toward the drill rig. This insures that a string of pipe is always maintained in the drilled hole..

Pullback

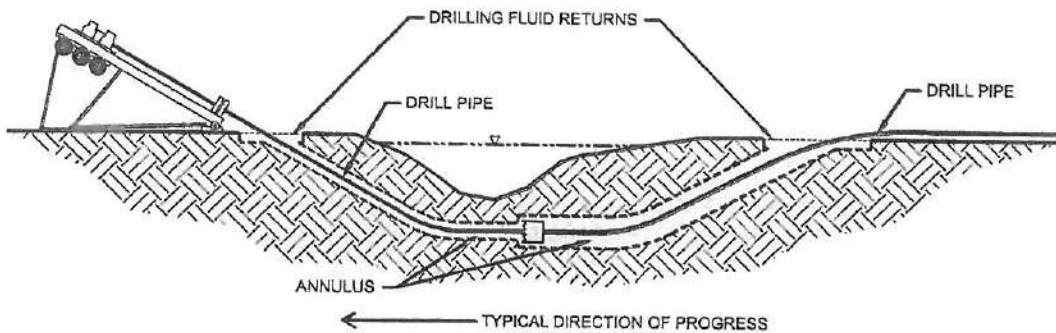
Pipe installation is accomplished by attaching the prefabricated pipeline pull section behind a reaming assembly at the exit point and pulling the reaming assembly and pull section back to the drilling rig. This is undertaken after completion of pre-reaming or, for smaller diameter lines in soft soils, directly after completion of the pilot hole. A swivel is utilized to connect the pull section to the leading reaming assembly to minimize torsion transmitted to the pipe.

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PILOT HOLE



PREREAMING



PULLBACK

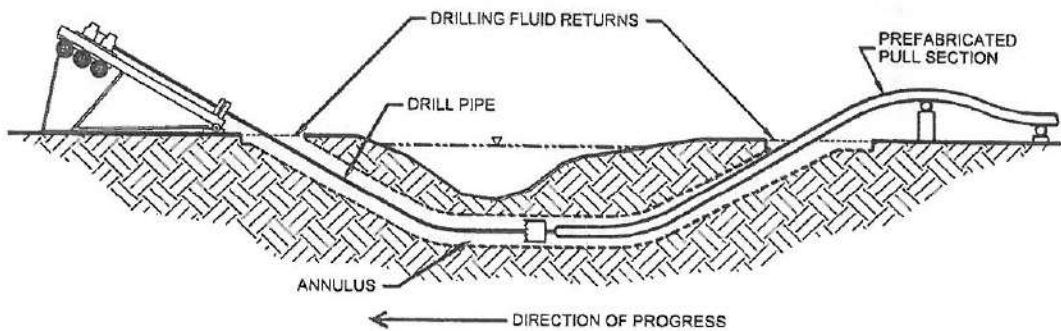


Figure 1
The HDD Process

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Disadvantages of Cased Crossing:

Cased Crossings are being worldwide discouraged due to technical & operational issues/problems being faced by people involved in installing & maintaining pipelines. Some of the points going against cased crossings are as follows:

- For installing a pipeline by cased crossing method, large launching & receiving pits are required to be excavated on both sides of the crossing (highway/ railway etc.). In case of high water table conditions, it is very difficult to keep these pits in stable/ dry condition. De-watering and sheet piling / shoring methods may be required especially for higher depth crossings.
- Collapse of the pits may lead to severe accidents. Several such accidents, fatal in some cases, have been reported in the past due to collapse of deep pits excavated at cased crossing locations.
- Due to requirement of deep pits and water table, depths more than of 3-4m are practically difficult to be achieved by this technique and may be risky.
- The installation is done by horizontal auger boring machine placed in the launching pit. The boring process is un-guided and at times may deviate considerably from the intended straight path due to soft soil conditions and/or presence of rock/ hard strata beneath the road/ rail surface. Under such conditions the hole may have to be abandoned and a new boring at a separate location may be required. Filling the abandoned hole is very difficult and settlement of road/ ground surface may occur in future.
- Maximum length of boring which can be practically achieved depends on the soil conditions and size of boring. However any length beyond 50-60m is difficult, risky & time consuming. As highway crossings, especially NH & SH are of longer lengths, this method has got limitations of installation.
- Problems of short-circuiting between casing & carrier pipes is another problem prevalent in cased crossings. This leads to loss of cathodic protection current thereby reducing the secondary protection to the carrier pipe. Any damage to pipe coating at such locations may lead to development of corrosion spots and potential areas for leakage of petroleum products in future.
- In case widening of the highway is undertaken in future, the low depth of the pipe may become a hindrance. Extension of the casing to cover the new width of crossing is very cumbersome and time consuming.

Advantages of HDD Technique:

- Horizontal Directional Drilling (HDD) technique is a trenchless technique used worldwide for crossing of obstacles like rivers, canals, drains, highways etc. by petroleum pipelines (liquid / gas), sewer lines etc.
- It is a environment friendly technique for pipeline crossings
- It is a much safer technique as compared to other techniques of pipeline crossings.
- Small excavation is required at both ends

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- By the use of this technique the pipeline can be installed at a much greater depth from the obstacle as per requirement of client. In PRRPL project, the depth below highway has been kept more than 5m. Such depths may not be possible by cased crossing technique.
- In this technique, use of casing pipe is not required as the hole drilled for installation of the carrier pipe is kept stable due to presence of drilling fluid (bentonite) under pressure and the drill pipe / product pipe being always present in the hole.
- Much longer crossing lengths can be achieved by HDD technique. Thus highway widening activities can be carried out without any hindrance as the pipeline is laid at much higher depth and for longer length as compared to cased crossing. In PRRPL project HDD crossing length of more than 100m have been envisaged. Such lengths cannot be obtained by cased crossing method.
- Success rate of HDD technique is much higher than auger boring. Problems of abandonment of hole which have been mentioned above in cased crossings are almost nil in case of HDD crossings of small lengths for highways, small canals etc.

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METHODOLOGY OF CROSSING

The method of crossing the National Highway Road is by Horizontal Directional Drilling method (HDD) which is a Trenchless method. In this method, the pipeline which is of size 16" OD X 0.438" WT confirming to API 5L X-70 grade and Coated with 3LPE is laid across the NH. The pipeline is pulled underground by HDD method, maintaining a clear depth (As specified in the drawing) from the top of the subgrade. The duct for OFC is also laid along with this pipeline by the same method. The pits of size 2m x 2m x 1.5m for carrying out HDD are laid away from the ROW of NH. The detailed procedure is given below:

DESIGN & ENGINEERING

- i) The limits of each crossing shall be determined on the basis of crossing profile, design, equipment, installation techniques and site condition.
- ii) Within the entire limits of crossing, the cover to top of coated pipe shall be as specified in the crossing drawing enclosed.
- iii) The entry and exit points of the pipeline at ground level shall not come within the limits of crossing as defined in the crossing drawings.
- iv) **Maximum longitudinal stress during installation**
Total maximum longitudinal stress in the pipeline due to tension and bending at any location shall not exceed 95% of the SMYS of the pipe material.
- v) **Maximum equivalent stress during final hydrostatic test**
After installation, the pipeline shall be hydrostatically tested at a pressure stipulated in the contract. During hydrostatic testing, the combined equivalent stress in the pipeline due to bending and test pressure shall not exceed 95% of the SMYS of pipe material.
- vi) **Maximum equivalent stress during service**
Permissible values of maximum equivalent stress during service shall be governed by the requirements of ANSI B 31.8/B 31.4, as applicable.
- vii) The minimum allowable radius of curvature for the pipeline shall be the highest value of the minimum pipeline elastic radius and above, after correction for drilling inaccuracies or multiplication by the factor 1.85, whichever results in the highest permissible value of minimum elastic bend radius.
- viii) **Pipeline configuration along the supported string before Entry Point**
The required pipeline configuration in order to allow smooth pull in the crossing entry point and admissible stress in the supported pipeline string shall be ensured.

[Signature]

Pipeline combined stress shall not exceed 95% of the specified minimum yield strength for line pipe material.

CONSTRUCTION

i) **Pipe String Preparation**

Complete pipe string shall be prepared as a single string for pulling. Welding, radiographic inspection of joints and joint coating of the string shall be performed in accordance with the standard IOCL specifications.

ii) **Pre-testing**

The complete pipe string shall be hydrostatically pre-tested before installation as per approved procedure for a minimum period of 24 hours. Joint coating of the welds shall be done after this pre-test.

iii) The section of the pipeline corresponding to the crossing shall before installation, be subjected to hydrostatic test pressure as stipulated in the contract and checks for leakage of welds shall be done. Failure, if any, during the test shall be rectified immediately.

iv) **Gauging**

Before pre and post installation hydrostatic testing, gauging of the pipeline shall be done by passing a gauging pig through the pipeline. The gauging pig shall have a diameter equal to 95% of the nominal internal diameter of the pipe. Necessary temporary scraper launchers/ receivers and other equipment for piping shall be installed.

v) **Installation**

The lateral offset of the actual exit point of the pilot hole from the calculated and theoretical exit point shall not exceed half per cent (0.5%) of the length of the crossing.

vi) The length tolerance shall not exceed one per cent of the crossing length, subject to the condition that the actual exit point shall not be within the limits of crossing as defined in the drawings.

vii) Back reaming shall be done separately from the pipeline pulling operation. The size of the back-reamed hole shall be adequate (approximately 1.5 times the pipeline diameter) to allow enough clearance for a smooth pull-back of the pipeline.

viii) The drilled hole shall be maintained till such time the pipeline is pulled in.

ix) During pulling operation, the buoyancy of the pipeline shall be controlled by suitable

approved methods so as to maintain the buoyancy as close as possible to zero during ,pull-back in order to reduce friction forces of the pipeline in the hole.

- x) Bentonite slurry of specified viscosity shall be pumped into the hole, preventing the wall from collapsing and protecting the pipeline coating.
- xi) The integrity of the corrosion coating shall be maintained.
- xii) After pull back operation, in order to ensure the integrity of pipe coating, megger test of the coating shall be carried out in accordance with the following steps:
 - a) The test must be carried out before the bored pipe is tied-in to the mainline pipe.
 - b) Measure the natural potential of the bored pipe at both ends.
 - c) Set up the temporary impressed current system with a digital multi-meter connected to measure the output current. Position the test electrode/anode as far from the bored pipe as interconnecting cable will allow and no closer than 10 meters.
 - d) Place the reference electrode at the remote end (opposite to impressed current system) to monitor the bored pipe potential.
 - e) Impress a current into the bored pipe start at zero amp. and increase slowly until the bored pipe potential is depressed to 1.5 V with respect to the reference electrode.
 - f) Note the current from the digital multi-meter and calculate the current density.
 - g) The desirable value of calculated current density should be less than 95 micro ampere per square meter of drilled pipe surface in contact with the soil.

FINAL HYDROSTATIC TEST

The complete crossing section shall be tested after installation. The test pressure shall be as stipulated in the Contract. After temperature stabilisation, pressure shall be retained in the pipeline for a period of 6 hours and recorded by manothermograph. The hydrostatic testing shall be carried out in accordance with approved procedures and specification detailed elsewhere in the document.

FINAL CLEAN UP

After completion of construction, the site shall be cleaned from balance material and debris and bentonite slurry. Site/ ROW shall be cleared to the complete satisfaction of the land OWNER's and authorities having jurisdiction.

HDD PROFILE OF NH-04 ROAD CROSSING AT CH:-112+899.00 KM FOR Ø 16" PIPELINE

NAME OF CROSSING : NH-04 ROAD
CROSSING CHAINAGE : 112+899.00 KM
METHOD FOR PIPE LAYING : HDD
LENGTH OF CROSSING : 190.98M

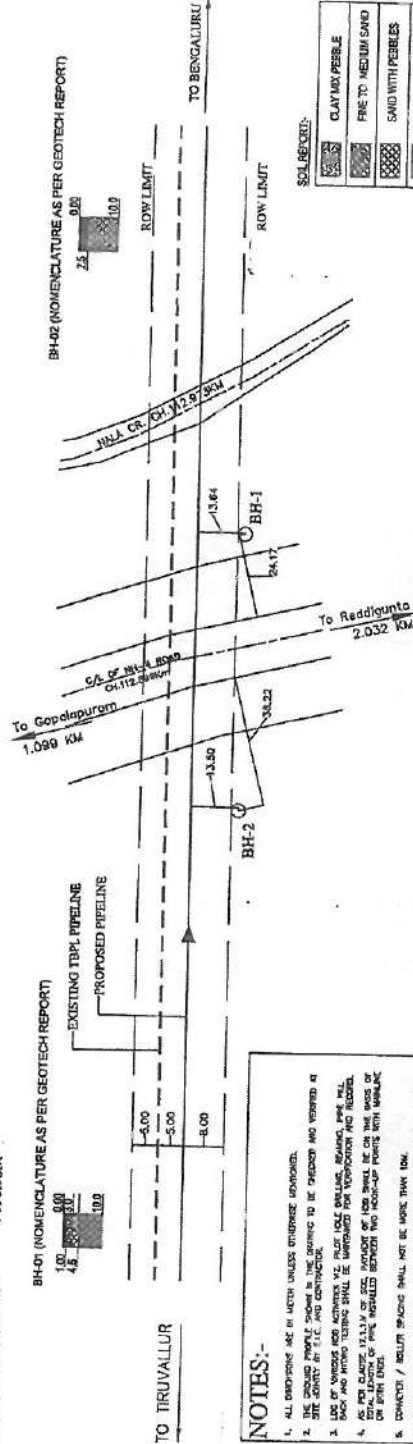
BH-01 (NOMENCLATURE AS PER GEOTECH REPORT)



BH-02 (NOMENCLATURE AS PER GEOTECH REPORT)



PLAN



NOTES:-

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
3. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
4. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
5. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
6. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
7. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
8. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
9. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.
10. THE JOINTS IN THE PIPE SHALL BE PROVIDED AND VERIFIED AT THE JOINTS.



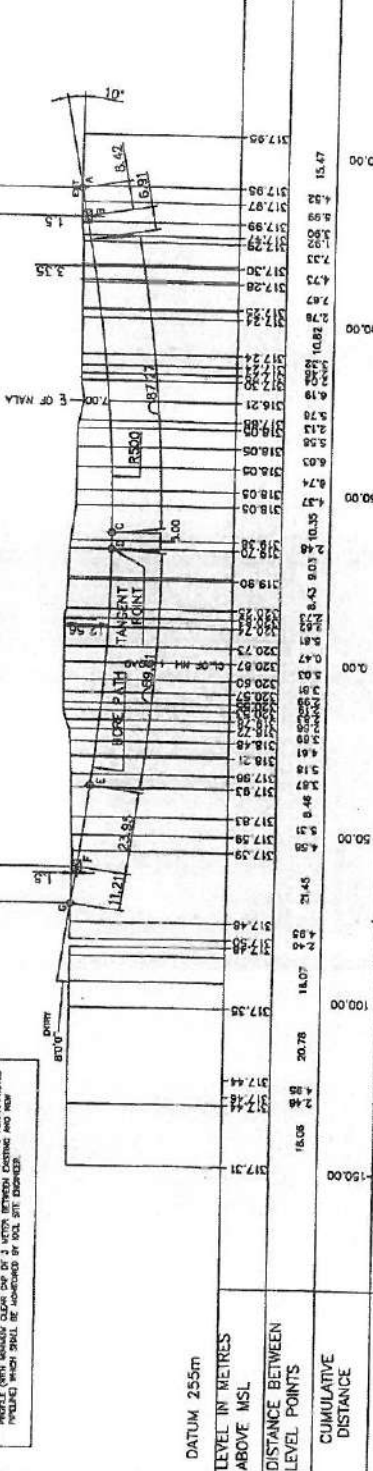
SEA BED:-

ENTRY TO EXIT STRAIGHT LENGTH 210.97M

ENTRY TO EXIT CURVED LENGTH 212.55M

TIE IN TO TIE IN STRAIGHT LENGTH 59.59M

TIE IN TO TIE IN CURVED LENGTH 192.97M



CROSS SECTION DETAILS OF BOREHOLE

Ø 16" Ø - 15.13 mm Ø 15.13 mm

W.T. 11.13 mm LAYER PIPE

Ø 16" Ø - 15.13 mm Ø 15.13 mm

W.T. 11.13 mm LAYER PIPE

Ø 16" Ø - 15.13 mm Ø 15.13 mm

W.T. 11.13 mm LAYER PIPE

Ø 16" Ø - 15.13 mm Ø 15.13 mm

W.T. 11.13 mm LAYER PIPE

Ø 16" Ø - 15.13 mm Ø 15.13 mm

W.T. 11.13 mm LAYER PIPE

Ø 16" Ø - 15.13 mm Ø 15.13 mm

W.T. 11.13 mm LAYER PIPE

GROUND PROFILE

Handwritten signature



REAM HOLE



EXTENSIVE SLURRY

NOTES

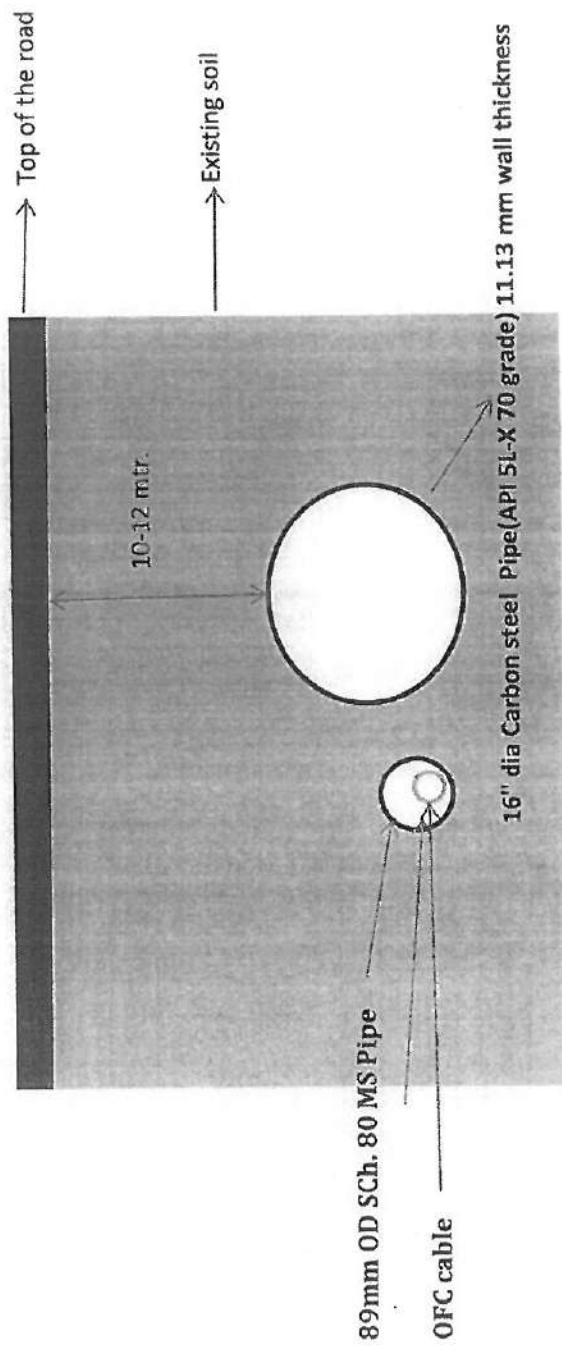
1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. ENTRY/EXIT MAY BE CHANGE DEPENDING ON SITE CONDITION.
3. TOTAL HDD LENGTH 190.98 MTR.
4. CURVATURE/STRAIGHT LENGTH 192.92 MTR.
5. PROPOSED RADIUS OF CURVATURE 500 MTR.

DESIGNED BY: *Handwritten signature*
CHECKED BY: *Handwritten signature*
DATE: 14-02-2020

PROJECT: NH-04 ROAD CROSSING AND NALA CROSSING
TITLE: HDD PROFILE OF NH-04 ROAD CROSSING AT CH:-112+899.00 KM FOR Ø 16" PIPELINE

	INDIAN OIL CORPORATION LIMITED PIPELINES DIVISION, NOIDA
	CORTICE INTERNATIONAL PVT. LTD KASTURBI SINGH ROAD THIRUVALLUR-605001 CHENNAI-71
PROJECT	THIRUVALLUR TO BEANGURU ALONG PIPELINE GROUP-III
TITLE	NH-4 ROAD CROSSING AND HALA CROSSING CH. 112.65 km
SCALE: DRAWING NO. 1 : 1000	REV 0 TYPICAL CURVE DATA-64

CROSS SECTION DRAWING OF PIPELINE ALONG WITH OFC (BY HDD METHOD)



R. Balakrishnan

R. BALAKRISHNAN
 Senior Construction Manager
 INDIAN OIL CORPORATION LIMITED
 Southern Region Pipelines, Collector - Construction
 Gudiyatham Road, P.O. Vadamanal - 517 402
 Dist : Chittoor (A.P.) INDIA



ఆంధ్రప్రదేశ్ ఆంధ్ర ప్రదేశ్ ANDHRA PRADESH

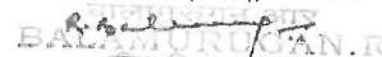
SI.No.4397 Rs.100/- Date:16-03-2021
R. BALAMURUGAN, IOCL, CHITTOOR
For Whom: SELF

P. Prakash
CN 553298
P. PRAKASH
LICENCED STAMP VENDOR
R.No. 10-23-027/2021
T.Puttur (V&P), Thavangampalle (M),
Chittoor Dist. Coll. 1985620029

**AGREEMENT REGARDING GRANTING OF RIGHT OF WAY PERMISSIONS FOR LAYING UTILITY
SERVICES ON NATIONAL HIGHWAYS**

Agreement for laying the 16" dia Natural Gas Pipeline along with OFC by Standard HDD method across NH-4 at 150.623 Km between Gopalapuram to Reddigunta, Anupalli(Village), Chittoor(Mandal) and at NH-69 at 192.971 Km between Palamaner to Bangarupalem, Palamaner (Village & Mandal), Chittoor district in the state of Andhra Pradesh.

This Agreement made this day of 2021 between Project Director acting in his executive capacity through the President of India/ National Highways Authority of India (hereinafter referred to as the Authority" which expression shall unless excluded by or repugnant to the context, include his successors in office and assigns) on the one part, and M/s Indian Oil Corporation Limited(Pipeline Division), Southern Region Pipelines, Construction Office, Chittoor Pumping – cum-Delivery Station, Gudiyatham Road, P.O.Yadamari – 517422, Chittoor Dist., Andhra Pradesh, a Company registered under the Companies Act, 1956 and have its Registered Office at Indian Oil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai-


R. BALAMURUGAN, R.
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - कन्या
Southern Region Pipelines, Chittoor - Construction
Gudiyatham R. P. O. Yadamari

400051 (hereinafter called the "Licensee") which expression shall unless excluded by repugnant to the context, include his successors/administrator assignees on the second part.

Whereas the Authority is responsible, inter-alia, for development and maintenance of lands in

- i. NH-4 at 150.623 Km between Gopalapuram to Reddigunta, Anupalli(Village), Chittoor(Mandal), Chittoor district in the state of Andhra Pradesh.
- ii. NH-69 at 192.971 Km between Palamaner to Bangarupalem, Palamaner (Village & Mandal), Chittoor district in the state of Andhra Pradesh.

Whereas the Licensee proposes to lay 16" Natural Gas pipeline along with OFC Cable referred to as utility services in subsequent paras.

Whereas the Licensee has applied to the Authority for permission to lay the utility services at the following locations:

- a. NH-4 at 150.623 Km between Gopalapuram to Reddigunta, Anupalli(Village), Chittoor(Mandal), Chittoor district in the state of Andhra Pradesh.
- b. NH-69 at 192.971 Km between Palamaner to Bangarupalem, Palamaner (Village & Mandal), Chittoor district in the state of Andhra Pradesh.

And whereas the Authority has agreed to grant such permission for way leave on the NH Row as per terms and conditions hereinafter mentioned.

Now this agreement witnessed that in consideration of the conditions hereinafter contained and on the part of the Licensee to be observed and performed, the Authority hereby grants to the Licensee permission to lay 16" diameter underground Natural Gas Pipeline utility services as per the approved drawing attached hereto subject to the following conditions, namely.

1. Row permissions are only enabling in nature. The purpose of extending the way leave facility on the National Highway Row is not for enhancing the scope of activity of a utility service provider, either by content or by intent. Further, enforceability of the permission so granted shall be restricted only to the extent of provisions/scope of activities defined in the license agreement & for the purpose for which it is granted.
2. No Licensee shall claim exclusive right on the Row and any subsequent user will be permitted to use the Row, either above or below, or by the side of the utilities laid by the first user, subject to technical requirements being fulfilled. Decision of the Authority in relation to fulfilment of technical requirements shall be final and binding on all concerned parties. In case any disruption/damage is caused to any existing user by the subsequent user, the Authority shall not be held accountable or liable in any manner.
3. The Licensee shall be responsible for undertaking all activities including, but not limited to site identification, survey, design, engineering, arranging finance, project management, obtaining regulatory approvals & necessary clearances, supply of equipment, material, construction, erection, testing and commissioning, maintenance

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Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P. O. Madanapalle - 517 303

and operation and all other activities essential or required for efficient functioning of their own utility/ industrial infrastructure facilities.

4. The Licensee shall pay license fees @ Rs /sq m/month to the Authority. The License fee shall become payable from the date of handing over of Row land to the Licensee, for laying of utilities/cables/conduits/pipelines for infrastructure/ service provider. As regards Tariff and Terms and conditions for providing common utility ducts along National Highways, there shall be a separate agreement regime.
5. Fee shall have to be paid in advance for the period for which permission is granted for entering into a license agreement. In case of renewal, rate prevailing at the time of renewal shall be charged. Delay in deposition of fee shall attract interest @ 15% per annum compounded annually.
6. Present policy of the MoRT&H is to provide a 2.00 m wide utility corridor on either side of the extreme edge of Row. In cases where utility ducts with sufficient space are already available along NH, the utility services shall be laid in such ducts subject to technical requirements being fulfilled.
7. The utility services shall be laid at the edge of the Row. In case of restricted width of Row, which may be adequate only to accommodate the carriageway, central verge, shoulders, slopes of embankment, drains, other road side furniture etc.; the utility services shall be laid beyond the toe line of the embankments and clear of the drain.
8. The Licensee shall make his own arrangement for crossing of cross drainage structure, rivers, etc. below the bed. In case, this is not feasible, the utility services may be carried outside the railings/parapets and the bridge superstructure. The fixing and supporting arrangement with all details shall be required to be approved in advance from the concerned Highway Administration. Additional cost on account of fixing and supporting arrangement as assessed by the Authority shall be payable by the Licensee.
9. In exceptional cases, where Row is restricted the utility services can be allowed beneath the carriageway of service road, if available, subject to the condition that the utility services be laid in concrete ducts, which will be designed to carry traffic on top. The width of the duct shall not be less than one lane. In such cases, it also needs to ensure that maintenance of the utility services shall not interfere with the safe and smooth flow of traffic. The cost of operation and maintenance will have to be borne by the Licensee.
10. It is to be ensured that at no time there is interference with the drainage of the road land and maintenance of the National Highways. Towards this, the top of the utility services shall be at least 0.6 metre below the ground level. However, any structure above ground shall be aesthetically provided for / landscaped with required safety measures as directed by the concerned Authority.

बालामुरुगन.आर
BALAMURUGAN.R
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Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
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Dist : Chittoor (A.P) INDIA

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11. The utility services shall be permitted to cross the National Highway either through structure or conduits specially built for that purpose. The casing / conduit pipe should, as minimum, extend from drain to drain in cuts and toe of slope to toe of slope in the fills and shall be designed in accordance with the provision of IRC and executed following the Specifications of the Ministry.
12. Existing drainage structures shall not be allowed to carry the lines across.
13. The top of the casing/conduit pipe containing the utility services to cross the road shall be at least 1.2m below the top of the sub grade or the existing ground level whichever is lower, subject to being at least 0.3m below the drain inverts. A typical sketch showing the clearances is given in Attachment-I.
14. The utility services shall cross the National Highway preferable on a line normal to it or as nearly so as practicable.
15. The casing/conduit pipe for crossing the road may be installed under the road embankment either by boring or digging a trench. Installation by boring method shall be preferred.
16. In case of trenching, the sides of the trench should be done as nearly vertical as possible. The trench width should be at least 30 cm. but not more than 60 cm wider than the outer diameter of the pipe. Filling of the trench shall conform to the specifications contained here-in-below or as supplied by the Highway Authority.
 - a. Bedding shall be to a depth not less than 30 cm. It shall consist of granular material, free of lumps, clods and cobbles, and graded to yield a firm surface without sudden change in the bearing value. Unsuitable soil and rock edges should be excavated and replaced by selected material.
 - b. The backfill shall be completed in two stages (i) Side-fill to the level of the top of the pipe (ii) Overfill to the bottom of the road crust.
 - c. The side fill shall consist of granular material laid in 15 cm. Layers each consolidated by mechanical tamping and controlled addition of moisture to 95% of the Proctor's Density. Overfill shall be compacted to the same density as the material that had been removed. Consolidation by saturation or ponding will not be permitted.
 - d. The road crust shall be built to the same strength as the existing crust on either side of the trench or to thickness and specifications stipulated by the Highway Authority.
17. The Licensee shall ensure making good the excavated trench for laying utility services by proper filling and compaction, so as to restore the land in to the same condition as it was before digging the trench, clearing debris/loose earth produced due to execution of trenching at least 50m away from the edge of the right of way.
18. All required restoration works subsequent to laying of the cable shall be required to be undertaken by the Licensee at its cost either by itself or through its authorized representative in consultation with the Authority as per predetermined time schedule and quality standards.

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19. Prior to commencement of any work on the ground, a performance Bank Guarantee @ Rs. per route metre / Rs. per sq m with a validity of one year initially (extendable if required till satisfactory completion of work) shall have to be furnished by the Licensee to the Authority/its designated agency as a security against improper restoration of ground in terms of filling/unsatisfactory compaction damages caused to other underground installations/utility services & interference, interruption, disruption or failure caused thereof to any services etc. In case of the Licensee failing to discharge the obligation of making good of the excavated trench/other restoration work, the Authority shall have a right to make good the damages caused by excavation, at the cost of the Licensee and recover the amount by forfeiture of the Bank Guarantee.
20. In case, the Performance Bank Guarantee is invoked as mentioned above, the Licensee shall be required to replenish and reinstate the required Performance Bank Guarantee within one month of such invoking. In case the work contemplated herein is not completed to the satisfaction of the Authority, which has granted the permission, within a period of 11 months from the date of issue of the Bank Guarantee, the Licensee shall either furnish a fresh guarantee or extend the guarantee for a further period of one year. Notwithstanding this, the Licensee shall be liable to pay full compensation to the aggrieved Authority/ its designated agency for any damage sustained by them by reason of the exercise of the Row facility.
21. The Licensee shall shift the utility services within 90 days (or as specified by the respective Authority) from the date of issue of the notice by the concerned Authority to shift/relocate the utility services, in case it is so required for the purpose of improvement/widening of the road/route/highway or construction of flyover/bridge and restore the road/land to its original condition at his own cost and risk.
22. The Licensee shall be responsible to ascertain from the respective agency in co-ordination with Authority, regarding the location of other utilities /underground installations/ facilities etc. The Licensee shall ensure the safety and security of already existing underground installations/utilities/facilities etc. before commencement of the excavation/using the existing cable ducts. The Licensee shall procure insurance from a reputed insurance company against damages to already existing underground installations/utilities/facilities etc.
23. The Licensee shall be solely responsible/ liable for full compensation/indemnification of concerned agency / aggrieved Authority for any direct, indirect or consequential damage caused to them/claims or replacements sought for, at the cost and risk of the Licensee. The concerned agency in co-ordination with Authority shall also have a right make good such damages/ recover the claims by forfeiture of Bank Guarantee.
24. If the Licensee fails to comply with any condition to the satisfaction of the Authority, the same shall be executed by the Authority at the cost and risk of the Licensee.

25. Grant of License is subject to the Licensee satisfying (a) minimum disruption of traffic and (b) no damage to the highways. As far as possible, the Licensee should avoid cutting of the road for crossing highway, and other roads and try to carry out the work by trenchless technology. In case any damage is caused to the road pavement in this process, the Licensee will be required to restore the road to the original condition at its cost. If due to unavoidable reasons the road needs to be cut for crossing or laying utility services, the Licensee has to execute the restoration work in a time bound manner at its cost either by itself or through its authorized representative in consultation with the Authority as per predetermined time schedule and quality standards. In case of the Licensee failing to discharge the obligation of making good of the excavated trench/other restoration work, the Authority shall have a right to make good the damages caused by excavation, at the cost of the Licensee and recover the amount by forfeiture of the Bank Guarantee.
26. The Licensee shall inform/give a notice to the concerned agency designated by the Authority at least 15 day in advance with route details prior to digging trenches, for fresh or maintenance/repair works. A separate performance Bank Guarantee for maintenance/repair works shall have to be furnished by the Licensee.
27. Each day, the extent of digging the trenches should be strictly regulated so that utility services is laid and trenches filled up before the close of the work that day. Filling should be completed to the satisfaction of the concerned agency designated by the Authority.
28. The licensee shall indemnify the concerned agency in co-ordination with Authority, against all damages and claims, if any due to the digging of trenches for laying cables/ducts.
29. The permission for laying utility services is granted maximum for 5 years at a time, which can thereafter be considered for renewal. On payment of additional fee at the time of renewal, the permission shall automatically be renewed, unless defaults exist. In case of renewal, rate prevailing at the time of renewal shall be charged. Delay in deposition of fee shall attract interest @ 15% per annum compounded annually.
30. The permission shall be valid only for the period it is issued and fee deposited. However, the Authority also has a right to terminate the permission or to extend the period of Agreement.
31. That the Licensee shall not undertake any work of shifting, repairs or alterations to the utility services without prior written permission of the concerned agency in coordination with the Authority.
32. The permission granted shall not in any way be deemed to convey to the Licensee any ownership right or any interest in route/road/highway land /property, other than what is

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Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र पाइपलाइन्स, चिन्नूर - निर्माण
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O. Yadamarl - 517 422
Dist : Chittoor (A.P.) India

herein expressly granted. No use of NH Row will be permitted for any purpose other than that specified in the Agreement.

33. During the subsistence of this Agreement, the utility services located in highway land / property shall be deemed to have been constructed and continued only by the consent and permission of the Authority so that the right of the Licensee to the use thereof shall not become absolute and indefeasible by lapse of time.
34. The Licensee shall bear the Stamp Duty charged on this Agreement.
35. Three copies of 'as laid drawings' of utilities (hard and soft copies) with geo-tagged photographs and geo-tagged video recordings of laying of cables in the trench (with respect to the NH) and after complete restoration shall be submitted to the Authority for verification and record within a month of completion of works.
36. The Licensee shall allow free access to the Site at all times to the authorised representatives of Authority to inspect the Project Facilities and to investigate any matter within their Authority, and upon reasonable notice, shall provide reasonable assistance necessary to carry out their respective duties and functions.
37. The utility services shall not be made operational by the Licensee unless a completion certificate to the effect that the utility services has been laid in accordance with the approved specifications and drawings and the trenches have been filled up to the satisfaction of the concerned agency in co-ordination with the Authority has been obtained. Notwithstanding anything contained herein, this Agreement may be cancelled at any time by Authority for breach of any condition of the same and the Licensee shall neither be entitled to any compensation for any loss caused to it by such cancellation nor shall it be absolved from any liability already incurred.
38. The Licensee shall ensure adherence to relevant Indian standards and follow best industry practices, methods and standards for the purpose of ensuring the safe, efficient and economic design, construction, commissioning, operation, repair and maintenance of any part of the utility lines/industrial infrastructure facilities and which practices, methods and standards shall be adjusted as necessary, to take account of
 - a. operation, repair and maintenance guidelines given by the manufacturers,
 - b. the requirements of Law,
 - c. the physical conditions at the Site, and
 - d. The safety of operating personnel and human beings.
39. The Licensee shall have to provide safety measures like barricading, danger lighting and other necessary caution boards while executing the work.
40. While laying utility services, at least one lane of road shall be kept open to traffic at all times. In case of single lane roads, a diversion shall be constructed. If any traffic

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Dist : Chittoor (A.P) India

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diversion works are found necessary during the working period such diversion shall be provided at the cost of Licensee.

41. After the termination/expiry of the agreement, the Licensee shall remove the utility services within 90 days and the site shall be brought back to the original condition failing which the Licensee will lose the right to remove the utility services. However before taking up the work of removal of utility services the Licensee shall furnish a Bank Guarantee to the Authority for a period of one year for an amount assessed by the Authority as a security for making good the excavated trench by proper filling and compaction, clearing debris, loose earth produced due to excavation of trenching at least 50m away from the edge of the Row.
42. Any disputes in interpretation of the terms and conditions of this Agreement or their implementation shall be referred to the redress mechanism prevailing in the Ministry and the decision of the redress mechanism shall be final and binding on all.
43. For PPP Projects. In case of any financial loss incurred by the respective project concessionaires due to such laying/shifting of utility services by the Licensee, compensation for the same shall be required to be borne by the Licensee in mutual agreement with the respective project concessionaires. MoRTH/ NHAI/ implementing authorities for the project shall not be liable to the concessionaire in any way in this regard.

This agreement has been made in duplicate, each on a Stamp Paper, Each party to this Agreement has retained one stamped copy each.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE CAUSED THIS AGREEMENT TO BE EXECUTED THROUGH THEIR RESPECTIVE AUTHORISED REPRESENTATIVES THE DAY AND THE YEAR FIRST ABOVE WRITTEN.

SIGNED SEALED AND DELIVERED FOR AND ON BEHALF OF AUTHORITY.

BY SHRI.....

(Signature, name & address with stamp)

SIGNED ON BEHALF OF M/S Indian Oil Corporation Limited, Pipeline Division (LICENSEE)

BY SHRI

(Signature, name & address with stamp)

बालमुरगन.आर.
BALAMURUGAN.R
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
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Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O.Yadaman - 517 412
Dist. Chittoor (A.P) INDIA

HOLDER OF GENERAL POWER OF ATTORNEY DATED.....

EXECUTED IN ACCORDANCE WITH THE RESOLUTION NO. DATED PASSED BY
HTE BOARD OF DIRECTORS IN THE MEETING HELD ON

IN THE PRESENCE OF (WITNESSES):

1.

2.

R. S. Chandra

LICENSE FEE ESTIMATE

Estimate towards License Fee for laying 16" dia Natural Gas pipeline along with OFC by Standard HDD method across NH-4 at 150.623 Km between Gopalapuram to Reddigunta, Anupalli(Village), Chittoor(Mandal) and at NH-69 at 192.971 Km between Palamaner To Bangarupalem, Palamaner (Village & Mandal), Chittoor district in the state of Andhra Pradesh.

M/s. Indian Oil Corporation Ltd.

Estimate-A

From	To	No	Measurements			Quantity Sq.M	Rate Per Sq.M	Unit	Amount
			L	B*	D				
NH-4 at 150.623 Km between Gopalapuram to Reddigunta, Anupalli(Village), Chittoor(Mandal), Chittoor district in the state of Andhra Pradesh.		1	45	0.495	-	22.275	297	Sq.M	6604.76
NH-69 at 192.971 Km between Palamaner To Bangarupalem, Palamaner (Village & Mandal), Chittoor district in the state of Andhra Pradesh.		1	60	0.495	-	29.7	393	Sq.M	11668.54
Total Amount									18273.30
License Fee (Rs/Sq.Mtr/Month)						=	$\frac{18273.30}{10 \times 12}$	=	152.28
License Fee for 5 years						=	5*12*152.28	=	9136.80

License fee prescribed for Public Utilities shall be 33% of the fee per MORTH Guide lines vide Lr. No: RW/NH-33044/29/2015/S&R(R) Dated: 22/11/2016

3015.14

Rounding Off (Rs.)

3015

Three thousand Fifteen rupees only

*Breadth is considered by taking 16" Dia pipe + 89mm duct pipe

R.S. - C. J. S.

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Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - निर्माण
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O. Yadamarri - 517 422
Dist : Chittoor (A.P) INDIA

UNIT RATES - VILLAGE WISE

District Name CHITTOOR Mandal Name CHITTOOR
 City/Town/Village ANUPALLE Survey No. Select ▼ To view Survey No. Wise Details

S.No.	Habitation	Nature Of Use	Land Rate Rs. per Acre	Effective Date (dd/mm/yyyy)
1.	ANUPALLE	Dry land	857,000	10/08/2020
2.	ANUPALLE	Wet Land double crop	882,000	10/08/2020
3.	ANUPALLE	Coconut Garden	924,000	10/08/2020
4.	ANUPALLE	House Sites	4,501,000	10/08/2020
5.	ANUPALLE	Agricultural Land fit for H.S.	3,867,000	10/08/2020
6.	ANUPALLE	Land abutting NH/SH/ZPP/MPP	1,200,000	10/08/2020

[Back](#)

Note :

1. This is provisional information as per records maintained by registration department for the purpose of helping the registering public to estimate the stamp duty only, subject to change due to revision of market value once in a year OR adhoc due to anomalies.

2. For further details contact Sub Registrar office

CHITTOOR(R.O),

,Collecoter Compound

GREAMPET, Chittoor

Chittoor

Phone : 241788

R. S. Chetty

बालामुरुगन.आर
 BALAMURUGAN.R
 सिरिस्ट निर्माण प्रबंधक
 Senior Construction Manager
 इंडियन ऑयल कॉर्पोरेशन लिमिटेड
 INDIAN OIL CORPORATION LIMITED
 दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - निर्माण
 Southern Region Pipelines, Chittoor - Construction
 Gudiyatham Road, P.O. Yadampari - 517 422
 Dist : Chittoor (A.P.) INDIA

UNIT RATES - VILLAGE WISE

District Name **CHITOOR** Mandal Name **PALAMANER**
 City/Town/Village **PALAMANERU** Survey No. = To view Survey No. Wise Details

S.No.	Habitation	Nature Of Use	Land Rate Rs. per Acre	Effective Date (dd/mm/yyyy)
1.	JOGINDLU	Dry land	840,000	10/08/2020
2.	GOBBILLA KOTUR	Dry land	840,000	10/08/2020
3.	BOMMIDODDI	Dry land	840,000	10/08/2020
4.	CHENGUDOSS MATTAM	Dry land	840,000	10/08/2020
5.	T.S.AGRAHARAM	Dry land	840,000	10/08/2020
6.	SHIKARIES COLONY	Dry land	840,000	10/08/2020
7.	SEETHARAM NAGAR	Dry land	840,000	10/08/2020
8.	PALAMANER	Dry land	840,000	10/08/2020
9.	BODIREDDIPALLE	Dry land	840,000	10/08/2020
10.	T.S.AGRAHARAM	Wet Land double crop	840,000	10/08/2020
11.	SHIKARIES COLONY	Wet Land double crop	840,000	10/08/2020
12.	SEETHARAM NAGAR	Wet Land double crop	840,000	10/08/2020
13.	PALAMANER	Wet Land double crop	840,000	10/08/2020
14.	JOGINDLU	Wet Land double crop	840,000	10/08/2020
15.	GOBBILLA KOTUR	Wet Land double crop	840,000	10/08/2020
16.	GADDURU	Wet Land double crop	840,000	10/08/2020
17.	CHENGUDOSS MATTAM	Wet Land double crop	840,000	10/08/2020
18.	BOMMIDODDI	Wet Land double crop	840,000	10/08/2020
19.	BODIREDDIPALLE	Wet Land double crop	840,000	10/08/2020
20.	GADDURU	Coconut Garden	920,000	10/08/2020
21.	T.S.AGRAHARAM	Coconut Garden	920,000	10/08/2020
22.	SHIKARIES COLONY	Coconut Garden	920,000	10/08/2020
23.	SEETHARAM NAGAR	Coconut Garden	920,000	10/08/2020
24.	PALAMANER	Coconut Garden	763,000	10/08/2020
25.	JOGINDLU	Coconut Garden	920,000	10/08/2020
26.	GOBBILLA KOTUR	Coconut Garden	920,000	10/08/2020
27.	T.S.AGRAHARAM	Agricultural Land fit for H.S.	3,170,000	10/08/2020
28.	SHIKARIES COLONY	Agricultural Land fit for H.S.	3,170,000	10/08/2020
29.	SEETHARAM NAGAR	Agricultural Land fit for H.S.	3,170,000	10/08/2020
30.	PALAMANER	Agricultural Land fit for H.S.	3,170,000	10/08/2020
31.	JOGINDLU	Agricultural Land fit for H.S.	3,170,000	10/08/2020
32.	GOBBILLA KOTUR	Agricultural Land fit for H.S.	3,170,000	10/08/2020
33.	GADDURU	Agricultural Land fit for H.S.	3,170,000	10/08/2020
34.	CHENGUDOSS MATTAM	Agricultural Land fit for H.S.	3,170,000	10/08/2020
35.	BOMMIDODDI	Agricultural Land fit for H.S.	3,170,000	10/08/2020
36.	BODIREDDIPALLE	Agricultural Land fit for H.S.	3,170,000	10/08/2020
37.	PALAMANER	Land abutting NH/SH/ZPP/MPP	1,590,000	10/08/2020

[Back](#)

Note :

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2. For further details contact Sub Registrar office

PALAMANER,
 11-93, M.B.T. Road
 M.B.T. ROAD, Palamaner
 Palamaner
 Phone : 254469

registration.ap.gov.in/UnitRateMV.do

R.S. - C. J. T.
 बलामुरुगन.आर
BALAMURUGAN.R
 सचिव निर्माण प्रबंधक
 Senior Construction Manager
 इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
 दक्षिणी क्षेत्र पाइपलाइन, चित्तूर - निर्माण
 Southern Region Pipelines, Chittoor - Construction
 Gudiyatham Road, P.O. Palamaner - 517 422
 Dist: Chittoor (A.P.) INDIA



ఆంధ్రప్రదేశ్ ఆంధ్ర ప్రదేశ్ ANDHRA PRADESH

SI.No.4399 Rs.100/- Date:16-03-2021
R. BALAMURUGAN, IOCL, CHITTOOR
For Whom: SELF

P. Prakash
CN 553300
P. PRAKASH
LICENCED STAMP VENDOR
R.No. 10-23-027/2021
TPattur (V&F), Thavanampalle (M),
Chittoor Dist. Cell: 9985620029

AFFIDAVIT

I, R. Balamurugan aged, 33 years, working as Senior Construction Manager- TBPL Section of ETBPNMTPL Natural Gas pipeline project, Chittoor Indian Oil Corporation Lt., Pipeline Division, hereby give the following undertaking to the MoRTH in connection with the permission for laying of 16" TBPL Section of ETBPNMTPL Natural Gas pipeline along with laying of 89 mm dia.OFC duct across NH-4 & NH-69 at 150.623 Km & 192.971 between Gopalapuram to Reddigunta(NH-4) & Palamaner To Bangarupalem (NH-69) Chittoor district in the state of Andhra Pradesh.

1. Undertaking for not to damage any other utility, if damaged then to pay the losses either to MoRTH or to the concerned agency.
2. Undertaking for renewal of bank guarantee as and when asked by MoRTH/NHAI.
3. Undertaking for confirming all standard condition of Ministry circulars and NHAI's guidelines.
4. Undertaking for indemnity against all damage and claims.
5. Undertaking for management of traffic movement during laying of Natural Gas line without hampering the traffic.
6. Undertaking that if any claim is raised by concessionaire/contractor then the same to be paid by us.
7. Undertaking that prior approval of NHAI shall be obtained before undertaking any work for installation, shifting or repairs, or alteration to the Natural Gas line located in the National Highway Right of ways

R. Balamurugan
BALAMURUGAN.R
Senior Construction Manager
INDIAN OIL CORPORATION LIMITED
Chittoor District, Chittoor - 517 001

8. Undertaking that expenditure, if any, incurred by NHAI for repairing any damage caused to the National Highway by the laying, maintenance or shifting of the petroleum product pipeline will be borne by us.
9. Undertaking that text of the license deed is as verbatim of MoRTH format (issued vide Ministry's circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016).
10. Undertaking that the applicant will submit safety clearance from Petroleum and Explosive Safety Organization (PESO) before commissioning as the approval for the Steel network can be applied to Chief Controller of Explosives for PESO clearance only after mechanical completion and Hydrostatic testing of the Steel line but before commissioning, as Hydro-testing report will be part of the submittal for obtaining PESO Clearance. Electricity, OISD and PCB clearances are not applicable. The construction of the Steel Network is done as per the T4S guideline of PNGRB and as per OISD 226 guidelines.
11. If the MoRTH/NHAI considers it necessary in future to move the petroleum product pipeline for any work of improvement or repairs to the road, it will be carried out as desired by the MoRTH/NHAI at the cost of the agency owing the petroleum product pipeline within reasonable time (not exceeding 60 days) of the intimation given.
12. (i) Certify that laying of petroleum product pipeline will not have any deleterious effects on any of the bridge components and roadway safety for traffic.
(ii) "We do undertake that; we will relocate service road / approach road /utilities at our own cost notwithstanding the permission granted within such time as will be stipulated by NHAI" for future six-lining or any other development.

For Indian Oil Corporation Ltd.



R. Balamurugan,
Senior Construction Manager,

IOCL-Chittoor
BALAMURUGAN.R

Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - निर्माण
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O. Yadamarl - 517 422
Dist : Chittoor (A.P) INDIA



ఆంధ్ర ప్రదేశ్ ఆంధ్ర ప్రదేశ్ ANDHRA PRADESH

Sl.No. 1398 Rs.100/- Date:16-03-2021
R. BALAMURUGAN, IOCL, CHITTOOR
For Whom: SELF

P. Prakash
CN 553299
P. PRAKASH
LICENCED STAMP VENDOR
R.No. 10-23-027/2021
T.Puttur (V&P), Thiruvananthapuram, Kerala
Chittoor District, Andhra Pradesh

UNDERTAKING

I, R. Balamurugan aged, 33 years, working as Senior Construction Manager- TBPL Section of ETBPNMTPL Natural Gas pipeline project, Chittoor Indian Oil Corporation Lt., Pipeline Division, hereby give the following undertaking to the MoRTH in connection with the permission for laying of 16" TBPL Section of ETBPNMTPL Natural Gas pipeline along with laying of 89 mm dia.OFC duct across NH-4 & NH-69 at 150.623 Km & 192.971 between Gopalapuram to Reddigunta(NH-4) & Palamaner To Bangarupalem (NH-69) Chittoor district in the state of Andhra Pradesh being executed by Indian Oil Corporation Limited, Pipeline division.

1. Not to damage other utility, if any and if damaged then to pay the losses either to NHAI or to the concerned agency.
2. IOCL agrees to submit Performance Bank Guarantee and Licensee fee estimate, if necessary.
3. The work will be carried out, confirming to all standard conditions of NHAI's guidelines.
4. Shifting of Utility Petroleum product pipelines as and when required by NHAI at the cost of the IOCL.

R. Balamurugan

5. For NH Six-laning/widening, we do undertake that we will relocate Underground Utility pipeline at our own cost notwithstanding the permission granted within such time as will be stipulated by NHAI for future six-laning or any other development.
6. Indemnity against all damages and claims.
7. Traffic movement during the laying of petroleum product pipelines to be managed by the IOCL.
8. If any claim is raised by the Concessionaire, then the same has to be paid by IOCL.
9. Prior approval of the NHAI shall be obtained before undertaking any work of installation, shifting, repairs, or alterations to the petroleum product pipeline any other utility located in the National Highway Right-of-ways.
10. Expenditure, if any, incurred by NHAI for repairing any damage caused to the National Highway by the laying, maintenance or shifting of the petroleum product pipeline will be borne by agency owning the line.
11. If the NHAI considers it necessary in future to move the utility line for any work of improvement or repairs to the road. It will be carried out as desired by the NHAI at the cost of the agency owning the utility line within a reasonable time (not exceeding 60 days) of the intimation given.
12. In case of burst of petroleum product pipeline, the IOCL will bear the entire cost for restoration of damage caused to the road.
13. During the crossing of the Utility line across the road, the IOCL will take preventive steps and keep the caution boards at the point of crossing and sign boards and the reflective boards for the traffic to make aware of Cased Crossing activity so that traffic can go cautiously.
14. IOCL will be liable for any damage caused, to the road during execution of work and during service life of the Utility line.
15. The permission granted to IOCL shall not in any way to be deemed to convey to IOCL any right or any interest in Government land other than what it granted for.
16. The IOCL shall not without the prior permission in writing to NHAI authority, undertake any fitting/repair or alteration to the proposed Utility line.
17. The text of the license deed is as per verbatim of MoRTH format (issued vide Ministry's Circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016).
18. IOCL shall be responsible for restoring the road at their own cost to its original condition after laying the Utility line or any damage caused due to inadequate operation/maintenance of the Utility line.
19. The petroleum product pipeline line will cross the road at 90 degrees/as cased crossing in trenchless method, maintaining minimum cover/depth of 1.2m National Highway RoW. The length of casing pipe shall be extended beyond national highways ROW so as to meet MoRTH as well as IOCL safety requirements

Senior Construction Manager
 इंडियन ऑयल कॉर्पोरेशन लिमिटेड
 INDIAN OIL CORPORATION LIMITED
 दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - तमिऴ
 Southern Region Pipelines, Chittoor - Construction
 Gudiyatham Road, P.O Yedamari - 517 422
 Dist : Chittoor (A.P) INDIA

20. Undertaking that IOCL has obtained various safety clearances from the respective authorities such as Directorate of Electricity, Chief controller of Explosives, Petroleum and Explosives Safety Organization, Oil Industry Safety Directorate, State/Central Pollution Control Board and any other statutory clearances applicable, before applying to Highway Administration.
21. Undertaking that Laying of Product pipeline will not have any deleterious effects or any of the bridge components and roadway safety for traffic.

For IOCL



R. Balamurugan,
Senior Construction Manager,
IOCL- Chittoor

बालामुरुगन.आर
BALAMURUGAN.R
वरिष्ठ निर्माण प्रबन्धक
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - निर्माण
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O. Yadamari - 517 422
Dist : Chittoor (A.P.) INDIA



ANDHRA PRADESH POLLUTION CONTROL BOARD
D. No. 33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre,
Chalamalavari Street, Kasturibaipet, Vijayawada - 520 010
Website: www.pcb.ap.gov.in

CONSENT ORDER FOR ESTABLISHMENT

Order No. 295 /APPCB/CFE/RO-TPT/HO/2019

07/01/2020

Sub:APPCB – CFE – M/s. Indian Oil Corporation Limited, Thiruvallur (Tamilnadu) – Bengaluru(Karnataka) Pipeline of 104 km stretch passing through Chittoor district in Andhra Pradesh (including a stretch of 6.461 km passing through Koundinya wild life sanctuary, Palamaner reserved forest, Palamaner, Chittoor District) – **CONSENT FOR ESTABLISHMENT** of the Board under Sec.25 of Water (P & C of P) Act, 1974 and under Sec.21 of Air (P&C of P) Act, 1981 - **Issued - Reg.**

- Ref:
1. E.C.order dt.13.11.2019 issued by MoEF & CC, Gol, New Delhi.
 2. Industry's application received through Single Desk Portal on 31.10.2019.
 3. R.O: Tirupati report dt. 12.11.2019.
 4. T.O.Clarification Lr. dt.07.12.2019
 5. Proponent's Lr. dt. 16.12.2019
 6. CFE Committee meeting held on 17.12.2019.
 7. Proponent's Lr.dt.03.01.2020 enclosing copy of Forest Clearance.

1. In the reference 2nd cited, an application was submitted to the Board seeking Consent for Establishment (CFE) for laying of a pipeline of 104 km stretch passing through Chittoor district in Andhra Pradesh as detailed below with an investment of Rs.331.74 crores.

Laying of a pipeline of a pipeline for transportation of Re-Gassified Liquid Natural Gas (R-LNG) from delivery point to enroute anchor customer through 16"/6" OD pipeline in Andhra Pradesh which passes through 45 villages in Chittoor District with total length of 104 km including a stretch of 6.461 km passing through Koundinya wild life sanctuary, palamaner reserved forest, palamaneru, Chittoor District. The area of forest land involved is 4.6 Ha. The capacity of pipeline is 5.37 MMSCMD.

2. The above alignment was inspected by Environmental Engineer & Asst. Environmental Engineer, RO: Tirupati, on 11.11.2019 and submitted the report.
3. The project proponent vide reference 5th cited, clarified that the pipeline is passing crossing through eco-sensitive zone in Andhra Pradesh and hence Environmental Clearance (EC) was obtained from MoEF& CC, Gol. The proponent further clarified that the Pipe line is not connected to any Power plant and requested to consider under Green category.

బాలమురుగన్.ఆర్
BALAMURUGAN.R
జూనియర్ నిర్మాణ ప్రధానాధికారి
Senior Construction Manager
భారతీయ ఆయిల్ కార్పొరేషన్ లిమిటెడ్
INDIAN OIL CORPORATION LIMITED
దక్షిణ రేఖ వాయువుల నిర్మాణ - విభాగం
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O. Yadadri - 517 422
Dist : Chittoor (A.P.) INDIA

R.A. [Signature]

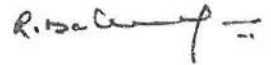
4. The Board, after careful scrutiny of the application, verification report of Regional Officer and Recommendation of the CFE Committee, hereby issues **CONSENT FOR ESTABLISHMENT** to the project under Section 25 of Water (Prevention & Control of Pollution) Act 1974 and Section 21 of Air (Prevention & Control of Pollution) Act, 1981 and the rules made there under. This order is issued to the activity as mentioned at para (1) only.
5. This Consent Order now issued is subject to the conditions mentioned in Annexure.
6. This order is issued from pollution control point of view only. Zoning and other regulations are not considered.
7. This order is valid for period of 7 years from the date of issue.
Encl: Annexure

**VIVEK YADAV IAS, MS(VY), O/o MEMBER SECRETARY-APPCB
MEMBER SECRETARY**

To

M/s. Indian Oil Corporation Limited,
Chittoor Pump station, Gudiyatham Road,
Yadamari (V), Yadamari (M),
Chittoor district - 517422.
narayang@indianoil.in

- Copy to: 1. The JCEE, Z.O: Kurnool for information and necessary action.
2. The E.E, R.O: Tirupati for information and necessary action.



बलामुरुगन.आर
BALAMURUGAN.R
वरिष्ठ निर्माण प्रबन्धक
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - निर्माण
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O. Yadamari - 517422
Dist : Chittoor (A.P.) INDIA

Annexure

1. The proponent shall obtain Consents for Operation (CFO) from APPCB, as required Under Sec.25/26 of the Water (P&C of P) Act, 1974 and under sec. 21/22 of the Air (P&C of P) Act, 1981, before commencement of the activity.
2. The rules and regulations notified by Ministry of Law and Justice, GOI, regarding the Public Liability Insurance Act, 1991 shall be followed.
3. Compensation is to be paid for any environmental damage caused by it, as fixed by the Collector and District Magistrate as civil liability.

Water:

4. The source of water is through tanker supply. The maximum permitted water consumption is 5 KLD only during construction phase.
5. There shall not be any waste water generation during operational phase.
6. Proponent shall take all necessary measures to protect soil and ground water from contamination due to oil leakage from the pipe line. **The proponent has to provide SCADA system to detect the leakages.**
7. Fire fighting facilities, leak detection system and fire alarm systems are to be provided at the pumping stations.

Air Pollution:

8. Pipeline system is to be provided with pressure protection devises and thermal relief valves. Pressure sensors shall be provided along the pipeline.
9. The proponent shall take necessary measures like providing dust suppression system to control dust emissions generated during construction phase due to excavation and movement of the vehicles.
10. Ground patrolling shall be under taken on periodical basis along the pipeline

Other Conditions:

11. The proponent vide reference 7th cited submitted the copy of Proceedings dt.02.01.2020 issued by the Divisional Forest Officer, Chittoor West Division, Chittoor, duly according the permission to M/s IOCL for commencement of laying of Pipe line.
12. Pipeline shall be laid at suitable depth below the ground level as per OISD guidelines.
13. The proponent shall obtain necessary CFE for the new isolated storage facility, if any, separately from the Board.

R.10-6-17
बालामुरुगन.आर
BALAMURUGAN.R
वरिष्ठ निर्माण प्रबन्धक
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
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दक्षिणी क्षेत्र पाइपलाइन, चित्तूर - निर्माण
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O Yadamari - 517 422
Dist : Chittoor (A.P) INDIA

14. Necessary protective coatings & cathodic protection are to be provided for the pipelines against external corrosion.
15. The proponent shall take all the safety precautionary measures as per Disaster Management Plan submitted by the proponent including mitigation measures.
16. The proponent shall comply with the following precautionary measures.
 - i. Selection of the pipeline route shall be avoided to thickly populated area to the extent possible and shall be at a minimum distance from the village boundary as per OISD guidelines. Identification board of the pipeline shall be provided as a safety factor to the villagers. Further, the cover thickness shall be increased to prevent any unforeseen shock loads and emergency conditions.
 - ii. The total length of the pipeline and its installations shall be hydrostatically tested at a pressure of 1.4 times of design pressure.
 - iii. 100 % Radiographic inspection of welded joints using X-Rays and Gamma rays.
17. Project management shall inform to local bodies, surrounding land owners along the pipeline and others for not taking up excavation works over the pipeline and problems if they do so.
18. If the pipeline is to be laid near an existing pipeline like a water main/ sewer line / pipelines for various petroleum products /railway tracks, the minimum clear distance shall be maintained as per OISD guidelines.
19. The proponent shall maintain minimum distance from habitation and ecologically sensitive areas as per OISD guidelines and adequate precautionary measures shall be implemented for safety.
20. The proponent to ensure that the alignment of pipeline route for transportation of petroleum products from Tap off point to reception point shall not pass through national parks / sanctuaries / coral reefs / ecologically sensitive areas as committed.
21. The proponent shall commission the pipeline only after receipt of approvals from the Chief Controller of Explosives
22. The proponent has to strictly comply with safety provisions as per the CCOE approved pipeline route plan.
23. The proponent shall comply with all the directions issued by the Board from time to time.
24. Concealing the factual data or submission of false information / fabricated data and failure to comply with any of the conditions mentioned in this order attracts action under the provisions of relevant pollution control Acts.
25. Notwithstanding anything contained in this conditional letter or consent, the Board hereby reserves its right and power Under Sec. 27(2) of Water (Prevention and Control of Pollution) Act, 1974 and Under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to revoke the order, to review any or all the conditions

बालमुरगन.र
BALAMURUGAN.R
ज्येष्ठ निर्माण प्रबन्धक
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिण क्षेत्र पाइपलाइन, चूडोर - निर्माण
Southern Region Pipelines, Chudoor - Construction
Gudiyatham Road, P.O. Chudaman - 517 429
Dist. - Kadapa

imposed herein and to make such modifications as deemed fit and stipulate any additional conditions.

26. Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules, 1982, to such authority (hereinafter referred to as the Appellate Authority) constituted under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.

VIVEK YADAV IAS, MS(VY), O/o MEMBER SECRETARY-APPCB
MEMBER SECRETARY

To

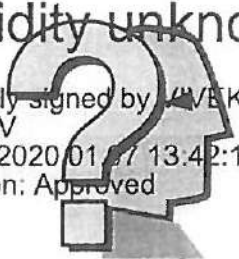
M/s. Indian Oil Corporation Limited,
Gudiyatham Road, Yadamari (V), Yadamari (M),
Chittoor district – 517422.
narayang@indianoil.in



बालामुरुगन.र
BALAMURUGAN.R
वरिष्ठ निर्माण प्रबन्धक
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र कार्यालय
Southern Region Hyderabad, India
Gudiyatham Road, P.O. Yadamari - 517422
Dist : Chittoor (A.P.) INDIA

Validity unknown

Digitally signed by VIVEK
YADAV
Date: 2020.01.31 13:42:15 IST
Reason: Approved





ఆంధ్రప్రదేశ్ ఆంధ్ర ప్రదేశ్ ANDHRA PRADESH

SI.No.4396 Rs.100/- Date:16-03-2021
R. BALAMURUGAN, IOCL, CHITTOOR
For Whom: SELF

P. Prakash
CN 553297
P. PRAKASH
LICENCED STAMP VENDOR
R.No. 10-23-027/2021
T.Puttur (V&F), Thavanampalle (M),
Chittoor Dist. G.O. 9905820029

CERTIFICATE

Name Of the Work: - ETBPNMTPL Natural Gas Pipeline Project: - Request for obtaining Crossing permission for laying "Thiruvallur to Bangalore section of Ennore-Thiruvallur-Bangalore-Puducherry-Nagapattinam-Madurai-Tuticorin underground R-LNG Pipeline (ETBPNMTPL) project" along with Optical Fibre Cable by Standard HDD method across NH-4 & NH-69 at 150.623 Km & 192.971 between Gopalapuram to Reddigunta(NH-4) & Palamaner To Bangarupalem (NH-69) Chittoor district in the state of Andhra Pradesh.

- 1) Laying of utility line will not have deleterious effects on any of the bridge components road way safety for traffic
- 2) for 6-laning "we do undertake the IOCL will relocate service road/approach road /utilities (gas pipe line along with OFC) at our own cost now withstanding the permission granted with in such time as will be stipulated by MoRTH for future 6- laning or any other development.
- 3) This proposal implemented now will not affect any likely future improvement to geometrics.

R. Balamurugan

BALAMURUGAN.R
Senior Construction Manager
INDIAN OIL CORPORATION LIMITED
Southern Region Project - Construction
Guwahati Region - Construction
Dist: Chittoor, Andhra Pradesh

- 4) We undertake that permission does not lead to the adverse impact on the safety and stability of the highway structure.
- 5) It is also certified that the alignment as proposed is the best available option for Laying the underground utility line across NH in Chittoor dist.
- 6) It is certifying that any other location of the underground utility line would be extremely difficult (proposed spot being located notified pipe line ROU) and the installation of underground utility line with in row will not adversely affect the design, stability and traffic safety of the highway nor the likely future improvement such as widening of the carriage way, easing of curve.

R. Balamurugan.R

बालमुरगन.आर
BALAMURUGAN.R
वरिष्ठ निर्माण प्रबंधक
Senior Construction Manager
इंडियन ऑयल कॉर्पोरेशन लिमिटेड
INDIAN OIL CORPORATION LIMITED
दक्षिणी क्षेत्र पाइपलाइन्स, चित्तूर - निर्माण
Southern Region Pipelines, Chittoor - Construction
Gudiyatham Road, P.O. Yadamari - 517 422
Dist : Chittoor (A.P.) INDIA



CGP (OS-GS) 9/4/2019
गोपनीय
CONFIDENTIAL

कार्यसूचि मद संख्या : P/264

AGENDA ITEM NO. _____

668th Board Meeting

प्रति TO _____

ED(PJ),

Pipelines Divn.

बैठक की तारीख

19th March, 2019

Meeting Held on _____

SUBJECT
विषय

Revision in the estimated cost of Ennore – Thiruvallur –
Bengaluru – Puducherry – Nagapattinam – Madurai –
Tuticorin Natural Gas Pipeline Project.

ACTION BY
किसके द्वारा कार्रवाई

कार्यवृत्त MINUTES

Shri Akshay Kumar Singh, Director(PL) informed that the proposal is for revised capital cost of Rs.6,025 crore ($\pm 10\%$) for Ennore - Thiruvallur - Bengaluru - Puducherry - Nagapattinam Madurai -Tuticorin Natural Gas Pipeline project, which is about 34% higher than the original approved cost of Rs.4,497 crore. Based on PNGRB approval, the Board of IndianOil at its meeting on 27.05.2016 had accorded approval for laying of 1190 km natural gas pipeline along with 209 km of spur lines from upcoming LNG storage and regasification terminal at Ennore. However, due to difficulties encountered in acquisition of new RoW for laying pipeline in Tamil Nadu, in-principle approval of competent authority was obtained in September 2017 for re-routing the pipeline by utilizing the existing RoW, which inter-alia resulted in reduction of new RoW requirement from 1218 km to 602 km. To improve the implementation schedule, the project has been divided into 3 phases i.e. Phase-1 : Ennore-Manali section, Phase-2 : Ramanathapuram-Tuticorin section and Phase-3 : balance sections.

The Board was informed that the cost of the project has primarily increased due to increase in the cost of mainline pipes due to implementation of steel policy by the Govt. of India, which gives preference to domestically manufactured steel products, implementation of GST, increase in the number of HDD crossings due to re-alignment of pipeline and increase in the weight of the pipelines.

Shri Akshay Kumar Singh, Director(PL) stated that though the MIRR of the project is lower than the hurdle rate, the project is of strategic importance to ensure evacuation of LNG from the recently commissioned 5 MMTPA LNG Terminal at Ennore.

...2/-

प्रतिलिपि COPY TO:

ED(F), IOC, Pipelines Divn.

1st April, 2019

DATED :

कंपनी सचिव COMPANY SECRETARY



IndianOil

गोपनीय
CONFIDENTIAL

कार्यसूचि मद संख्या :

AGENDA ITEM NO. P/264 contd....

प्रति TO

ED(PJ),
Pipelines Divn668th Board Meetingबैठक की तारीख
Meeting Held on19th March, 2019

SUBJECT विषय	<u>Page-2</u> Revision in the estimated cost of Ennore – Thiruvallur – Bengaluru – Puducherry – Nagapattinam – Madurai – Tuticorin Natural Gas Pipeline Project.	ACTION BY किसके द्वारा कार्रवाई
कार्यवृत्त MINUTES		
<p>The Board was informed that the Project Evaluation Committee at its meeting held on 18th March, 2019 had considered the proposal and made the following observations with respect to increase in the project cost:</p>		
<ol style="list-style-type: none"> a. 128% increase in cost of Mainline pipes and an identical increase in Mainline construction cost. One of the factors for pipe cost was the modification in policy by GOI regarding steel procurement giving preference to domestically manufactured steel products. b. Steel pipe cost has also gone up because of change in wall thickness of pipes as the revised route has higher Population Density Index than the original coastal route. The total increase in weight of pipes increased by 41.5%. It was also decided to modify size of pipe over 117 km from 24" to 30". c. There has also been an increase in the cost of land as actual procurement for Phase-I has been done at a much higher unit cost than initially estimated. Same is the case in Crop Compensation. d. Survey and Field Engineering, Permission and metering costs have also increased. 		
<p>While recommending the proposal to the Board for consideration, the Project Evaluation Committee made the following observations:-</p>		
<ol style="list-style-type: none"> i. The Government Steel procurement policy is adversely affecting the pipeline project viability for which no representation has been made to the Govt. Therefore, the Corporation, must strongly take up with the Ministry for change in policy on urgent basis. ii. The pipeline has a very low capacity utilization, which grows from 15% in year 1 to 35% in Year 25. Therefore, efforts need to be made to improve the utilization of the pipeline. 		
...3/-		

प्रतिलिपि COPY TO:

ED(F), IOC, Pipelines Divn.

DATED :

1st April, 2019

कंपनी सचिव COMPANY SECRETARY



IndianOil

गोपनीय
CONFIDENTIAL

कार्यसूचि मद संख्या :

AGENDA ITEM NO. P/264 contd....

प्रति TO

ED(PJ),

Pipelines Divn.

668th Board Meeting

बैठक की तारीख

Meeting Held on

19th March, 2019

SUBJECT

विषय

Page-3

Revision in the estimated cost of Ennore - Thiruvallur -
Bengaluru - Puducherry - Nagapattinam - Madurai -
Tuticorin Natural Gas Pipeline Project.

ACTION BY

किसके द्वारा कार्रवाई

कार्यवृत्त MINUTES

- iii. The Committee reiterated its view expressed earlier that IndianOil needs to constantly endeavour to improve the quality of its investment proposals so that fewer proposals are put up for revision in estimated project costs.

In response to a query from Shri D.S.Shekhawat, Independent Director regarding funding for the increase in the cost of the project by Rs.1,528 crore, it was clarified that IndianOil does not resort to project specific borrowings and the funds towards the increase in the cost of the project would be made available from general pool of funds.

With the above, the Board approved the item and passed the following resolutions:-

"RESOLVED THAT approval of the Board be and is hereby accorded for implementation of the project for laying Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapattinam-Madurai-Tuticorin Gas Pipeline at a revised cost of Rs.6,025 crore ($\pm 10\%$), as against the earlier approved cost of Rs.4,497 crore."

"RESOLVED FURTHER THAT approval of the Board be and is hereby accorded for the revised pipeline route and changes in pipeline configuration and phased implementation of the project for laying Ennore-Thiruvallur-Bengaluru-Puducherry-Nagapattinam- Madurai-Tuticorin gas pipeline."

प्रतिलिपि COPY TO


: ED(F), IOC, Pipelines Divn.

DATED :

: 1st April, 2019

कंपनी सचिव COMPANY SECRETARY

Sl. No.	S.S. No.	Type of Crossing	Proposed TBL Crossing (m)	Existing CBP Crossing (m)	Description	Between Pillar Location		Crossing Width (m)	R/W (m)	Area of Crossing (sq. m)	Coordinates			Village	Taluka	District	State
											Northing	Latitude	Longitude				
1	133	NH-4	112+727.45	141+218.70	Gopalapuram to Reddighatta (National Highway-4), Between KM Stone 150 & 151	IP446/1	IP446/2	7.4	27.74	320.79	294602.67	13° 09' 23.7060"	79° 06' 18.1080"	Anupalle	Chittoor	Chittoor	Andhra Pradesh
2	165	NH-69	151+183.88	179+675.12	Palamner To Bengarapalem (National Highway-69), Between KM Stone 192 & 193	TP615	IP615/1	10.56	48	683.25	258220.45	13° 12' 18.9200"	78° 45' 8.6610"	Palamner	Palamner	Chittoor	Andhra Pradesh


BALAMURUGAN.R
 Senior Construction Manager
 ఆంధ్రప్రదేశ్ ప్రభుత్వం
INDIAN OIL CORPORATION LIMITED
 ఆంధ్ర ప్రదేశ్ ప్రభుత్వం, రిజర్వ్ - పాల్వంచ
 Southern Region Pipelines, Chittoor - Construction
 Gudiyatham Road, P.O. Yadamam - 517 422
 Dist : Chittoor (A.P.) INDIA