



# Knowledge Sharing workshop on Natural Gas Pipeline

## Challenges In Pipeline Crossing and Construction in Vicinity of Pipeline



**10<sup>th</sup> June, 2022**



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- 1. Challenges during crossing of pipelines by other utilities/transport corridors.**
- 2. Challenges during development of residential/commercial buildings in the vicinity of pipeline**



# Challenges during crossing of Pipelines



## PNGRB-T4S/OISD-226

- When a buried pipeline has to cross any existing underground pipeline, cable, drain or other services, the pipeline shall be laid at least 500 mm below such services. Where it is not possible to obtain the above mentioned clearance, special design and construction shall be used. The existing pipeline shall be properly supported during and after the construction activities.
- When laid parallel to any existing underground pipeline, cable, drain or other services, the underground pipeline shall be laid with a clear horizontal distance of at least 500 mm. Where it is not possible to maintain the above mentioned clearance, special design and construction shall be used.
- A minimum separation of 3 meter should be maintained between pipeline and transmission tower footings.



# Challenges during crossing of Pipelines



- **Every Oil and Gas companies have their own guidelines for processing of the applications for crossing of their pipelines.**
- In GAIL, applications are processed through online portal
- **Requirements**
  - Clearance between existing and crossing pipeline
  - Construction of Culverts at pipeline crossing
  - Requirements for management of stray current
- **Application processing**
  - Documents submission
  - Application fee
  - Security deposits
  - Supervision charges



# Challenges during crossing of Pipelines



## Industry level actions

1. Input (coordinated by IOCL) provided to Ministry against the proposed guidelines of MoRTH for crossing Oil & Gas pipelines under Bharatmala Projects.
2. Input (coordinated by IOCL) provided to Ministry against the proposed draft RoW policy for laying of OFC by Govt./their approved agency

## Way forward

1. T4S provision detailing the technical requirements in terms of culverts/other measures to be made for protection of pipelines.
2. PNGRB may issue an advisory to Ministry/NHAI/CEA etc. stating the criticality to ensure safety and integrity



# Challenges during construction in the vicinity of Pipelines



## **PNGRB-T4S**

No pipeline should be located within 15.0 meters of any private dwelling or any industrial building or place of public assembly in which persons work, congregate or assemble, unless it is provided with at least 300mm of cover over and above minimum cover or the other mitigation measure provided like higher pipe wall thickness / protection with RCC Slab.

## **OISD-226**

No pipeline should be located within 15.0 meters of any private dwelling or any industrial building or place of public assembly in which persons work, congregate or assemble, unless it is provided with at least 300 mm of cover over and above minimum cover.



# Challenges during development in the vicinity of Pipelines



- **Every Oil and Gas companies have their own guidelines for processing of the applications for any developmental work in the vicinity of pipelines.**
  
- **Requirements**
  - Minimum distance of 15 meter.
  - Additional measures as stipulated in the standards in case of less distance.
  
- **Challenges**
  - Grievance from Builders/Associations against 15 meter min distance which is beyond P&MP act provisions.
  - Grievance form Builder/Developer on delay in processing applications. Delay is mainly due to inability of builders in submitting the title document of lands proposed to be developed.
  - Pipe line operators have no power to enforce minimum distance for pipelines beyond ROU under P&MP act.

## Guidelines followed in GAIL

1. Joint feasibility study post receipt of application.
2. Minimum distance of 15m between pipeline location and any permanent building to be maintained.
3. In case min distance is not met & also additional cover of 300 mm not available as per standards then following provisions to be done.
  - a) RCC slab of 80mm thickness, 1.5D in width for the extent of development plus 15m on either side along RoU (If owner wants to develop for own use then cost of RCC slab will be born by GAIL).
  - a) Agreement with builder/developer with a clause stating that the builder/developer understands the risks involved in locating permanent structures of human occupation from potential leak or rupture of Pipeline for whatsoever reasons and the builder/developer shall make the prospective occupants, aware of the above risks and GAIL to be indemnified.



# Challenges during development in the vicinity of Pipelines



## Way forward

1. T4S may specify measures to be taken w.r.t the development in the vicinity of pipelines during operational phase of pipelines.
2. PNGRB may issue advisory/communication to state/central agencies responsible for regulating the planning & development.



# Thank You

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# Major Business Portfolio

## Gas Transmission & Marketing

- Over **14,385** KM of Gas Network
- Long Term Portfolio of **~14** MMTPA

## Petrochemicals

- **~15%** domestic market share
- Capacity of **810 KTA** at Pata & **280 KTA** at BCPL

## LPG & Liquid Hydrocarbons

- **5** Processing Plants
- **1.4 MMTPA** of Capacity
- **4.55 MMTPA** of LPG Trans. Capacity

## E&P

- Participation in **12** Blocks
- Presence in US & Myanmar

## Renewables

- **118** MW of Wind Power Capacity
- **13.8** MW of Solar Power Capacity

## City Gas

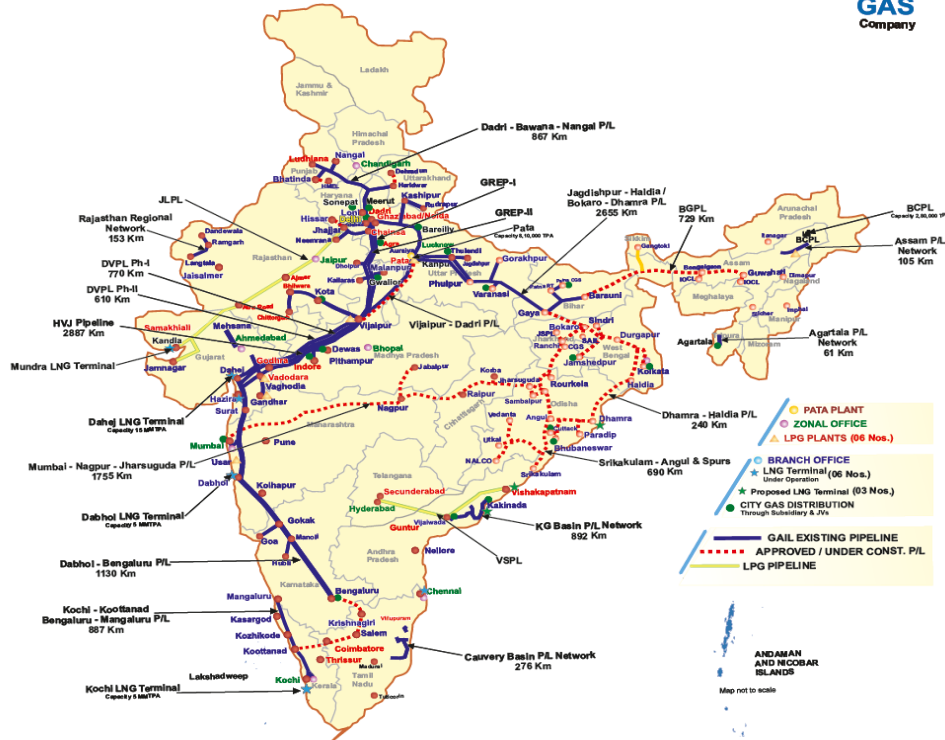
- **67** cities/GAs out of total 295 GAs
- Subsidiary – GAIL Gas Ltd., Bengal Gas & TNGCL + 8 CGD JVs





# GAIL's Presence

India's  
No.1  
Natural  
GAS  
Company

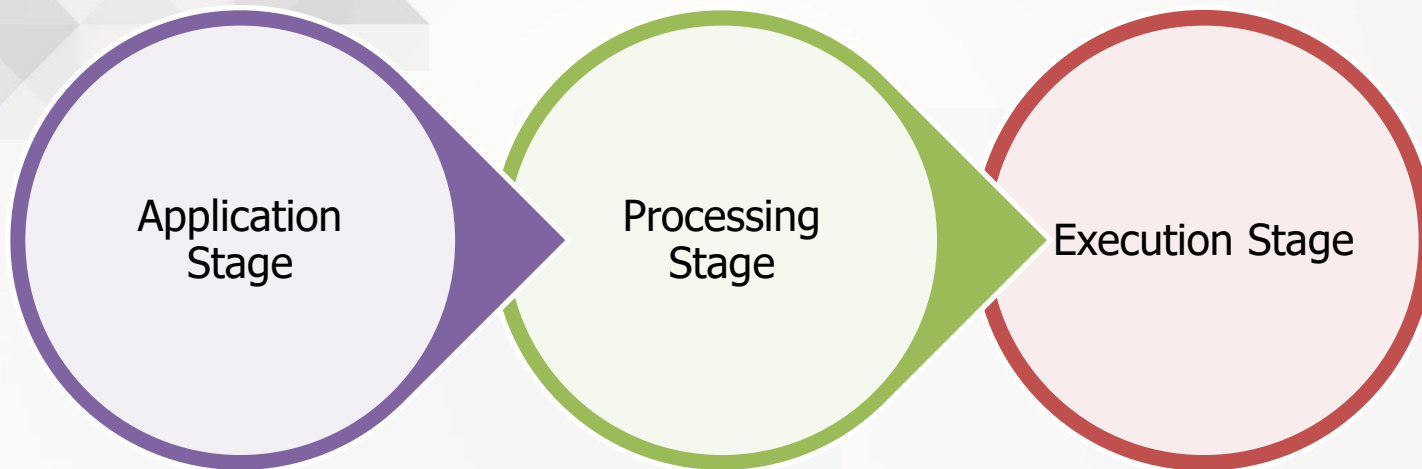


Existing presence of Pipelines : 16404 Km (24 states and UT)

State	Length (NG)	Length (LPG)
ANDHRA PRADESH	892	437
ASSAM	1	
BIHAR	432	
DADAR & NAGAR HAVELI	19	
DELHI	72	11
GOA	72	
GUJARAT	1965	575
HARYANA	510	93
HIMANCHAL PRADESH	6	
JHARKHAND	454	
KARNATAKA	899	
KERALA	541	
MAHARASHTRA	1070	
MADHYA PRADESH	2248	3
ODISA	170	
PUDUCHERRY	39	
PUNJAB	454	
RAJASTHAN	1113	695
TAMILNADU	272	
TELENGANA		172
TRIPURA	60	
UTTAR PRADESH	2828	37
UTTARKHAND	135	
WEST BENGAL	131	
<b>TOTAL</b>	<b>14381</b>	<b>2023</b>



# Crossing Procedure



- Submission with drawing and survey charge

- Review of application and drawing
- Joint survey for feasibility
- Review of final documents & agreement
- Issuance of permission

- Crossing execution
- Normalization