



**GAIL (India) Ltd.  
Vijaipur**

**Welcomes**

**Investors' & Analysts'**

**7th March 2024**



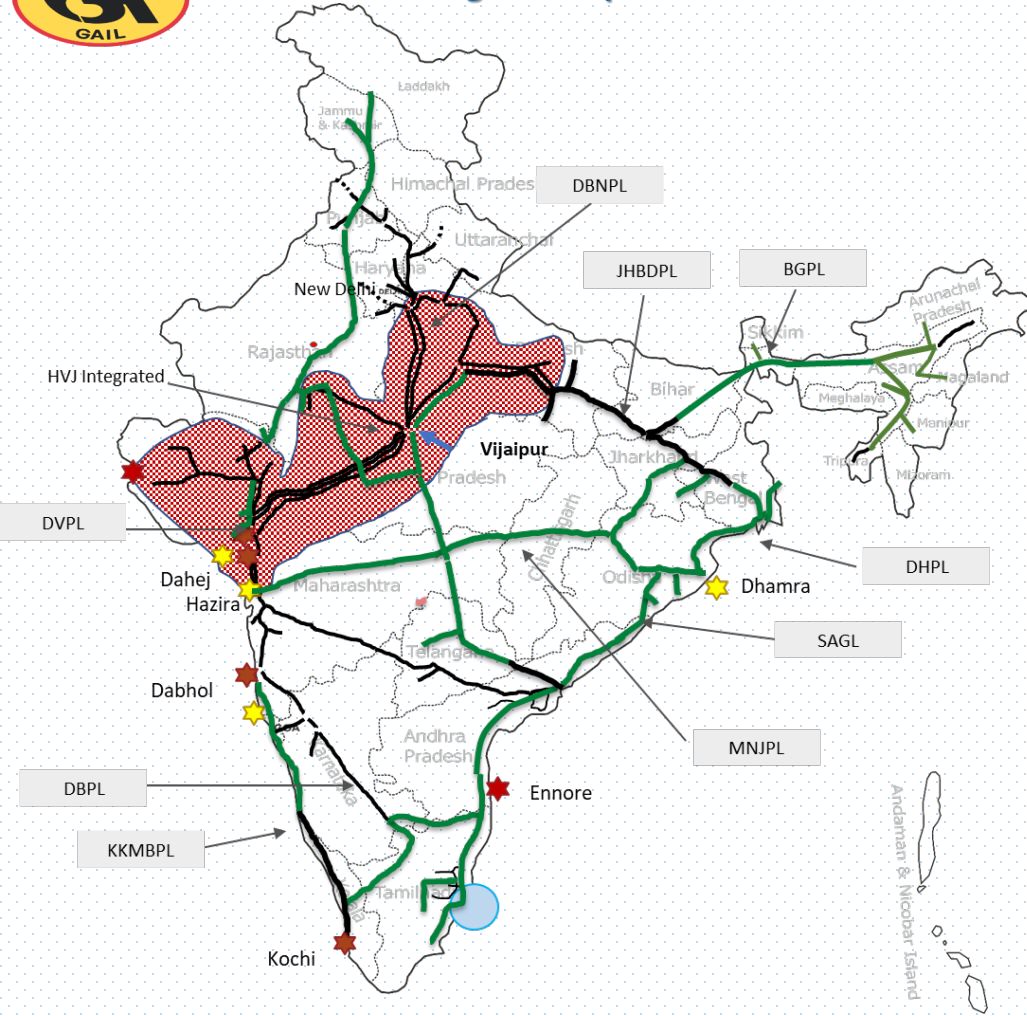


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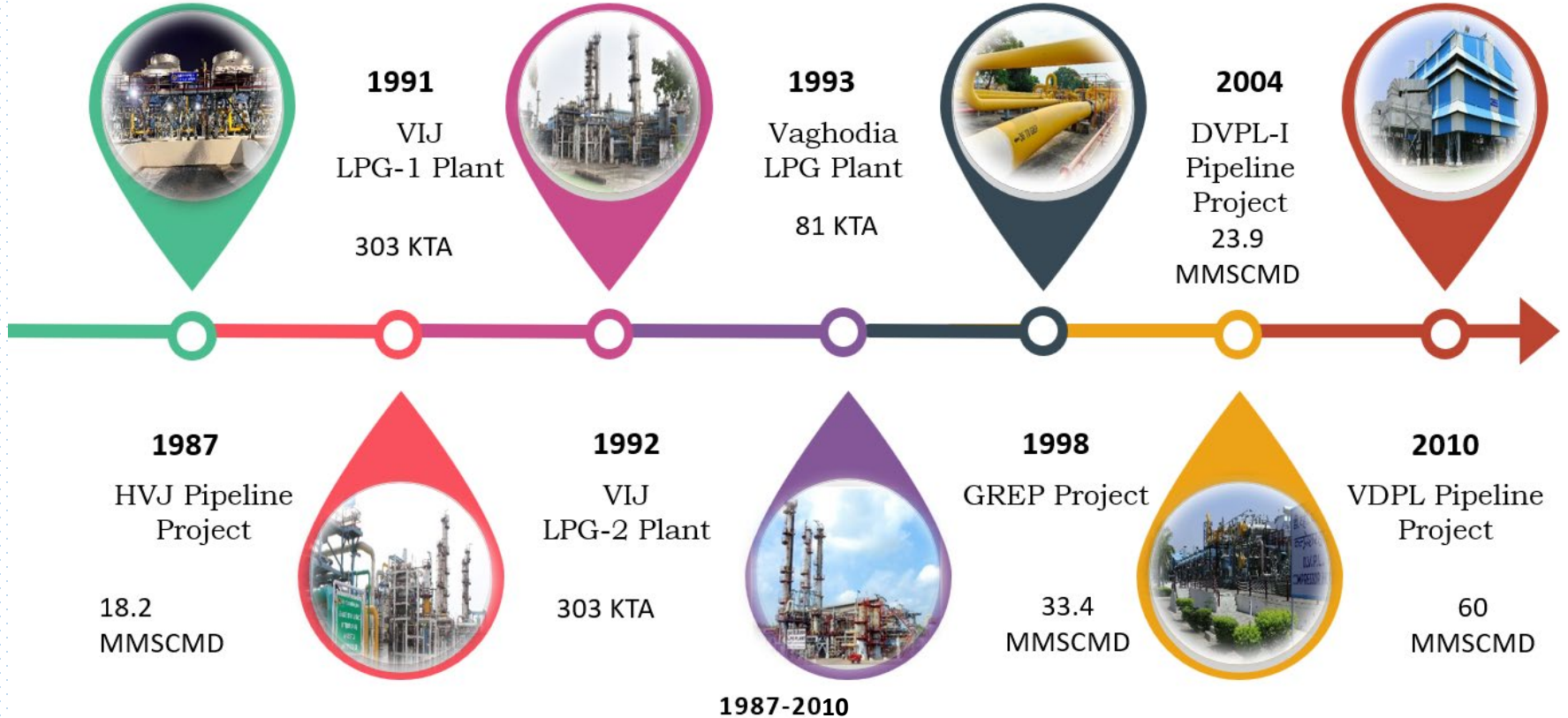
## Central Region Footprint on National Gas Grid



Description	Nos.	Remarks
HVJ Pipeline System	6195 km	HVJ Integrated Networks Recently Commissioned VAPL – 36"x352 km
Regional Pipeline <b>Total</b>	693 Km <b>6888 Km</b>	Regional Pipeline Network, Vadodara <b>HVJ &amp; Regional Combined</b>
Compressor Stations	8	Hazira, Vaghodia, Jhabua, Khera, Vijaipur, Dibiyaipur, Kailaras, Chhainsa
Other Work Centers/ Maintenance bases	13	- Vadodara, Dahej, Unera, Bharuch, Pithampur - Gadepan, Kota & Chittorgarh, Agra, Firozabad, Malanpur, Jhansi
Major Gas Sources	~82 MMSCMD	ONGC Hazira – 25 MMSCMD PLL Dahej - 45 MMSCMD PIL Ankot – 3 MMSCMD Shell Hazira – 4 MMSCMD CBM Shadol – 0.5 MMSCMD ONGC Ankleswar /Gandhar - 4 MMSCMD & other regional sources
Major Customers	~36 MMSCMD	KRIBHCO-Hazira, NFL Vijaipur, CFCL, DCM, YARA, INDORAMA, IFFCO, KRIBHCO SHYAM FERTILIZERS LTD, KANPUR FERTILIZER & CEMENT LIMITED, IOCL, OPAL, GSFC, GNFC
Gas Processing Plants	3 GPU 1 C2C3	-2 nos. LPG Plants at Vijaipur – 15 MMSCMD -1 no. LPG Plant at Vaghodia – 2.5 MMSCMD -1 no. C2C3 Recovery at Vijaipur – 22.6 MMSMCD
Recent CGD Connectivity (Including Under Progress)	34	Rajasthan, MP & UP Entities: IOCL, Torent, Adani, CUGL, GAIL Gas, AGL, IOAGL, Think Gas, Green Gas, HPCL, RSGL

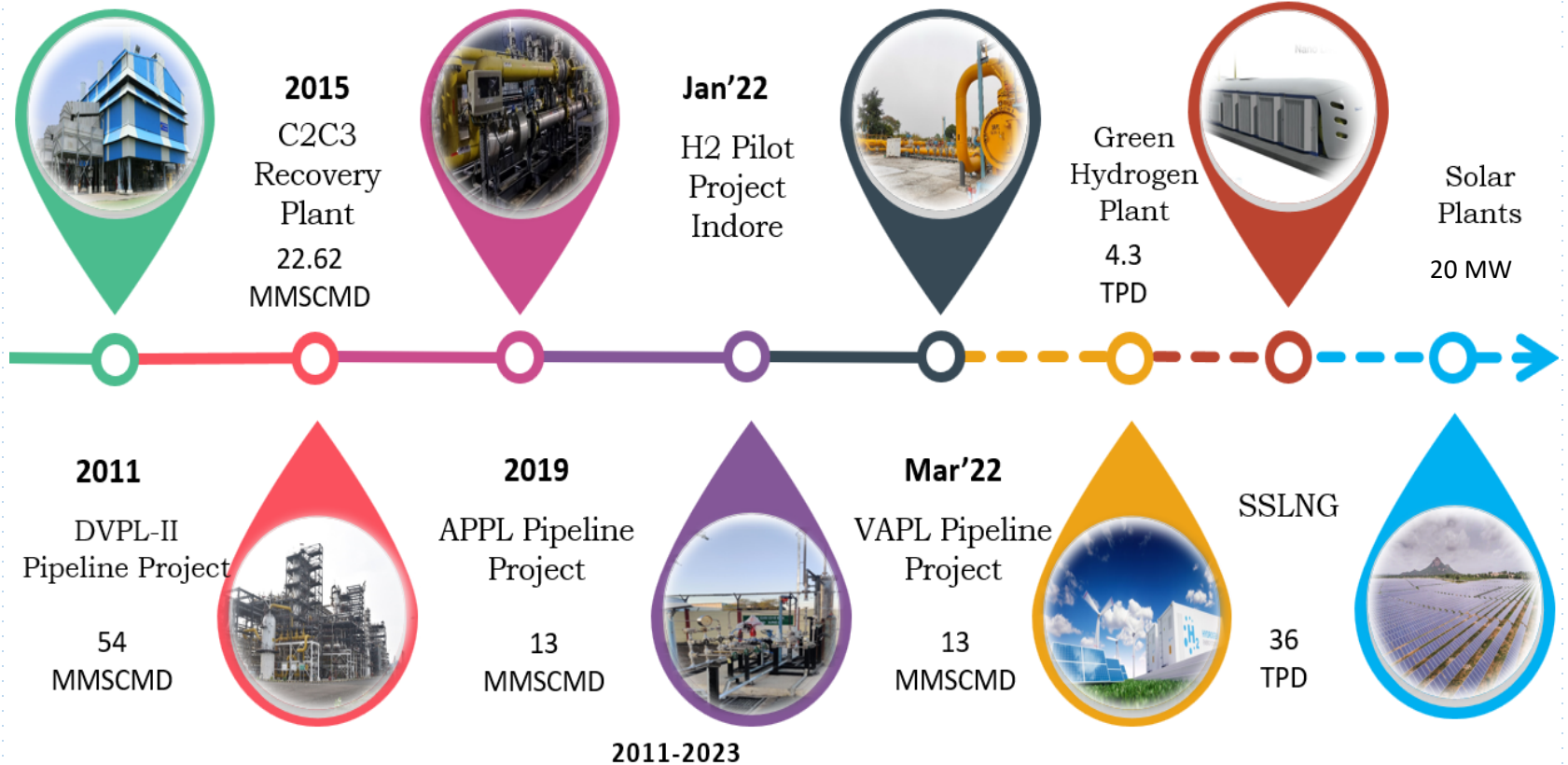


# Chronology of Asset under Vijaipur Jurisdiction ...supporting India's economy





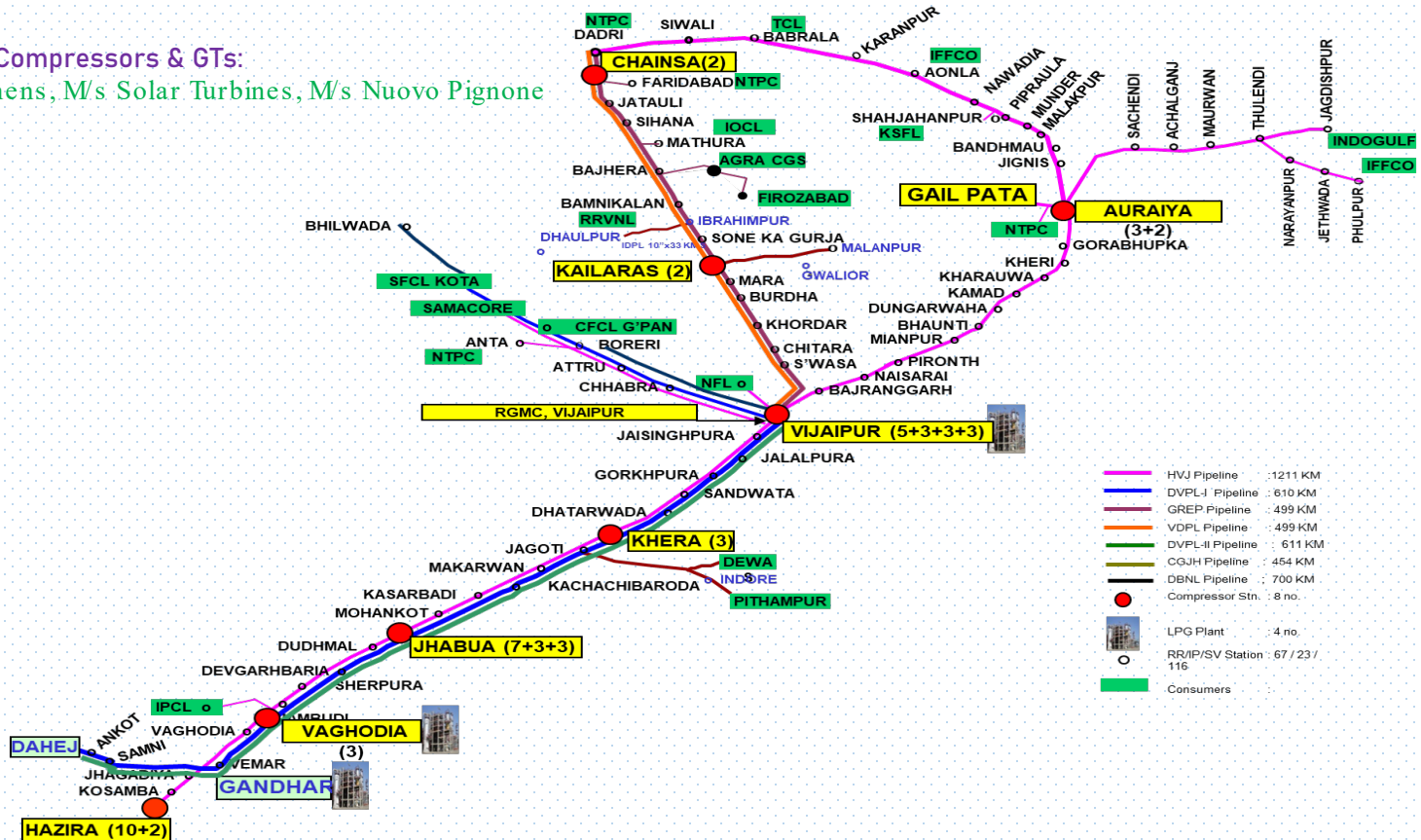
# Chronology of Asset under Vijaipur Jurisdiction ...supporting India's economy





# GAIL CR Compressor Stations (8)

Make of Compressors & GTs:  
M/s Siemens, M/s Solar Turbines, M/s Nuovo Pignone





# ABOUT GPU VIJAIPUR

UNIT



LPG TR-11

ESTABLISHED

1991

CAPACITY

7.5 MMSCMD

PRODUCTS

LPG, PROPANE,  
PENTANE, NAPHTHA



LPG TR-12

1992

7.5 MMSCMD

LPG, PROPANE,  
PENTANE, NAPHTHA



C2C3

2015

22.62 MMSCMD

C2C3, LPG, PROPANE,  
PENTANE, NAPHTHA



SSLNG

2023

36 MTPD

LNG

ANNUAL DESIGN PRODUCTION (TMT)

LHC

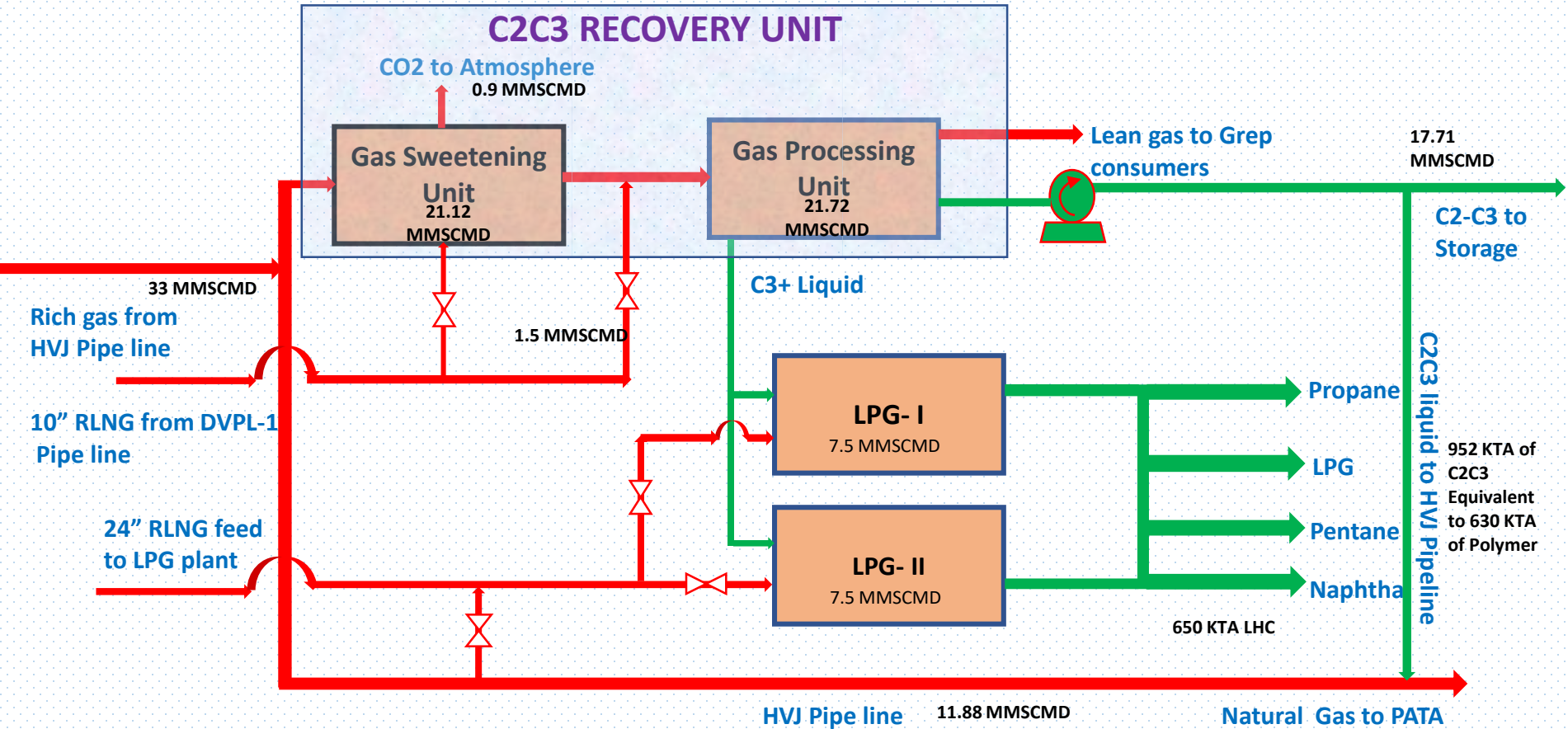
557

C2C3

952



# Gas Processing Unit Block Diagram



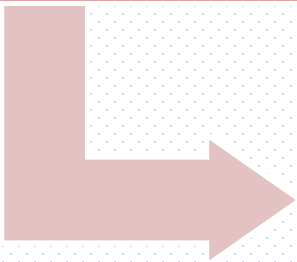




## Contribution of GAIL Vijaipur In Nation Progress..

Contribution of GAIL Vijaipur to Nation Progress in Natural gas transmission --

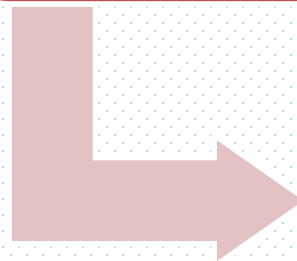
GAIL contributes more than 74 % of the Natural gas transmission share in India



GAIL Vijaipur Shares ~60 % of overall Natural Gas transmission networks of GAIL

Contribution of GAIL Vijaipur to Nation Progress in operating Pipeline Network--

GAIL Operates largest Gas Pipelines Network of ~ 16080 KM



GAIL Central Region operates appx. ~50% (6888 KM) of overall Pipelines Network of GAIL



# GPU Vijaipur achieved following new Milestone :

**Highest Ever Single Day C2C3 Production in C2C3 Unit : 3207.59 MT on 31.01.2024.**

**Highest Ever Monthly Gas Processing in GPU Vijaipur (C2C3+LPG) : 1230.72 MMSCM (Average 39.70 MMSCM per day).**

**Highest Ever Monthly Gas Processing in C2C3 Unit : 807.26 MMSCM**

3144.37  
MT

10.06.2022

3207.59  
MT

31.01.2024



800.14  
MMSCM

Mar-21

807.26  
MMSCM

Jan-24



# Safety First

## Best Safety Practices Followed



No job without **Safety Work Permit and Job Safety Analysis (JSA)**



**Safety Committee Meets Quarterly**

**Monthly Safety Day:**  
On 10<sup>th</sup> of Every Month  
Discussions on OISDs & Case Studies

Strict adherence for **Following SOPs & PPEs Usage**

Bilingual Displays for SOPs, MSDS, etc.



**Near Miss and Safety Observations** reporting through Online & Offline Systems

**Zero Tolerance Policy** on Safety Deviations

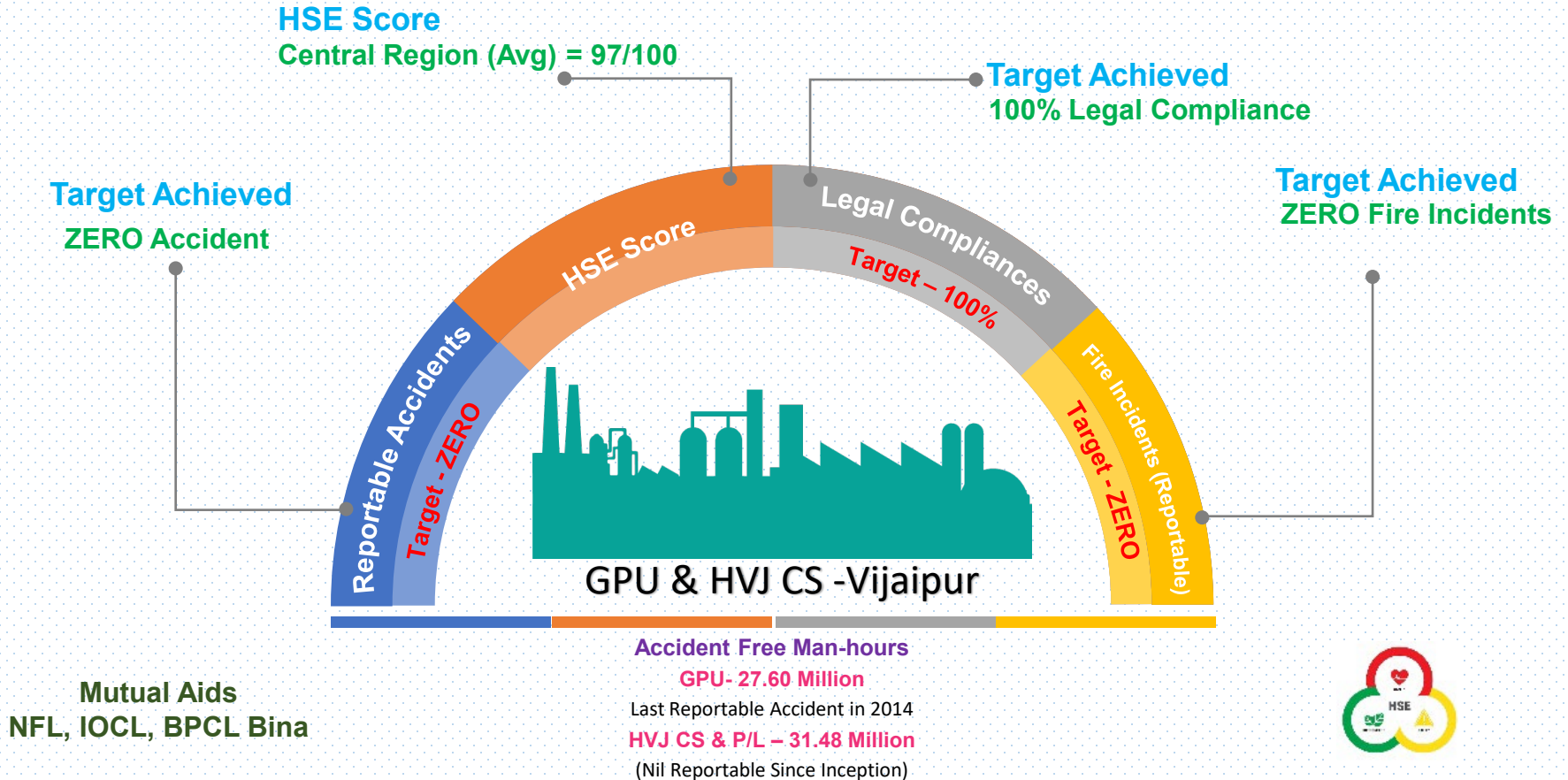
**Safety Training** for Workers before Gate Pass Creation

**Visitor Safety Briefing**





# HSE Performance





# Emergency Preparedness & Rehearsals

Offsite Mock-Drill: 04.09.2023



Welcome of Tehsildar Raghogarh and Dy. Director (IH&S),



Central Region HSE Meet एसई बैठक  
CENTRAL REGION HSE MEET

Attended by Dr. M.I.Z Ansari, Joint CCE (PESO), Sh. Arvind Sharma, Deputy Director DISH.

Training imparted to NDRF team on request from Disaster Management institute(DMI)



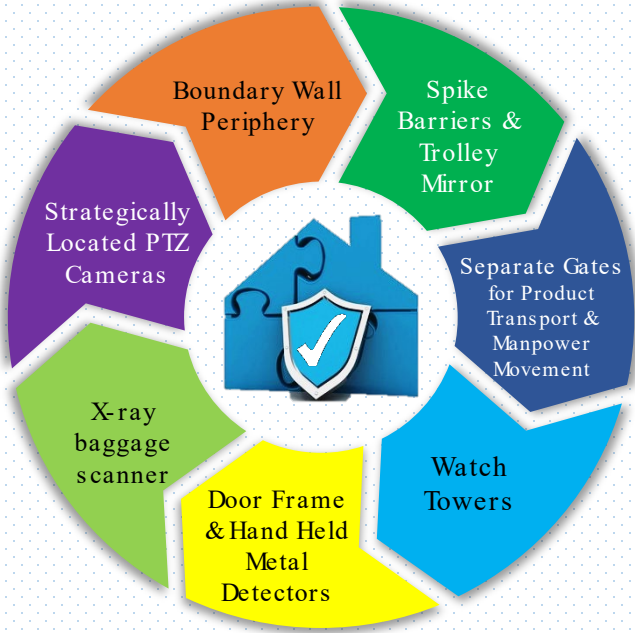
Propane gas leakage through downstream flange of 12"size ROV of Propane sphere-B,



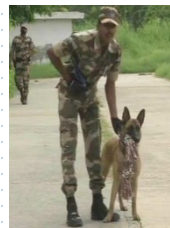


# Security Measures

## Security System



Surprise Visits by Senior Officers at Odd Hours



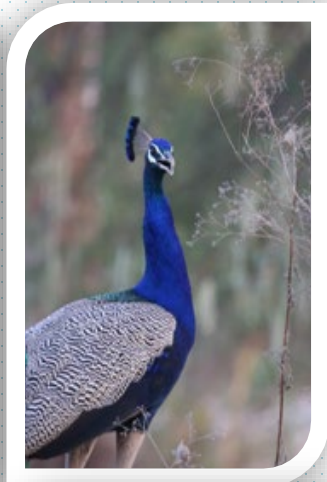


# Green Belt

GAIL Vijaipur has a total area of 494 ha. & approx. 339 ha. accounts for greenbelt.



Green Landscape at GAIL, Vijaipur



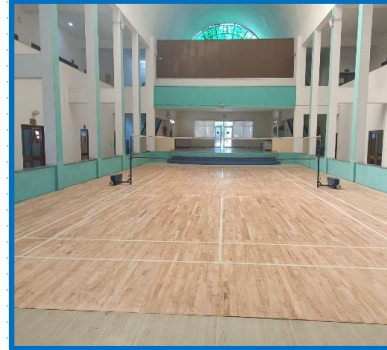
Black winged kite





# GAIL Vijaipur facilities

- ❖ Two nos. schools
- ❖ A, B, C & D type quarters
- ❖ Shopping Complex with Banks
- ❖ Bachelors & Seniors Hostels
- ❖ Guest House
- ❖ Sport Facility like cricket ground, golf ground, badminton, lawn-tennis, table tennis, basketball, swimming, Billiards, library, Gymnasium, Music Room, Party Halls, Auditorium, football Ground, Hockey Ground.
- ❖ Canteens, Temples.
- ❖ CISF residency & Centre







# Recently Commissioned Projects



# Inauguration of VAPL pipeline

36" X 352 Kms VIJAIPUR-AURAIYA PIPELINE Inaugurated by Honourable Prime Minister -05.10.2023



# Successfully Commissioned India's First SSLNG production unit at Vijaipur

Augmenting  
supplies to a  
growing domestic  
gas demand  
through LNG route



1st LNG Tanker flagged off on 18.11.2023



LNG Production commenced :16.11.2023

Manufacturer: Galileo  
Technologies, Argentina  
Capacity: 36 TPD (18TPDx2)

Project Features:

1. Pretreatment of gas through ZPTS
2. Liquefaction of treated gas via Cryobox
3. LNG Storage (INOX): 56KLx2
4. LNG Dispatch through Cryogenic tankers

Investment:  
~Rs.100 Cr



"Confidently paving way to yet another landmark achievement of GAIL"



# 5% Blending of Hydrogen in PNG Network, for AGL, Indore

- ✓ Inaugurated by C&MD in presence of Dir. (BD) & Dir. (Finance) on 31.01.2022
- ✓ Initially H<sub>2</sub> blending was started at 2% (v/v) in PNG network.
- ✓ Impact Study on CGD Network/NG pipeline due to various levels of Hydrogen blending(1% till 2%) in NG was carried out by SME & results were neutral. (No Impact on p/l system observed)
- ✓ Currently is H<sub>2</sub> blending being done **5% (v/v)** in PNG Network.
- ✓ Further, M/s. DNV has been hired to conduct a detailed impact study of 5% H<sub>2</sub> Blending in CGD network. Study is under progress.





# New Initiatives



# Green Hydrogen Project

## India's largest Green hydrogen plant-4.3 TPD



Green Hydrogen:  
*Fueling India's  
Clean Energy  
Future*

**Investment: Rs. 231 Cr**





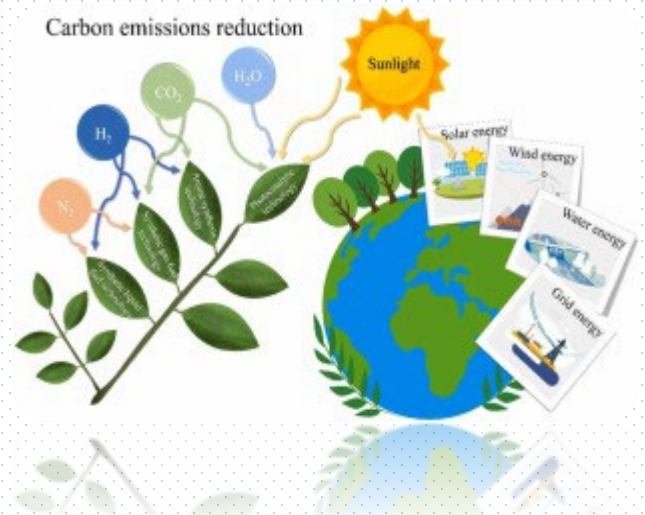
# 10 MW Ground Mounted Solar project



**Ground breaking ceremony of the solar project site work commenced by Director (Projects) on 6<sup>th</sup> Jan 2024.**

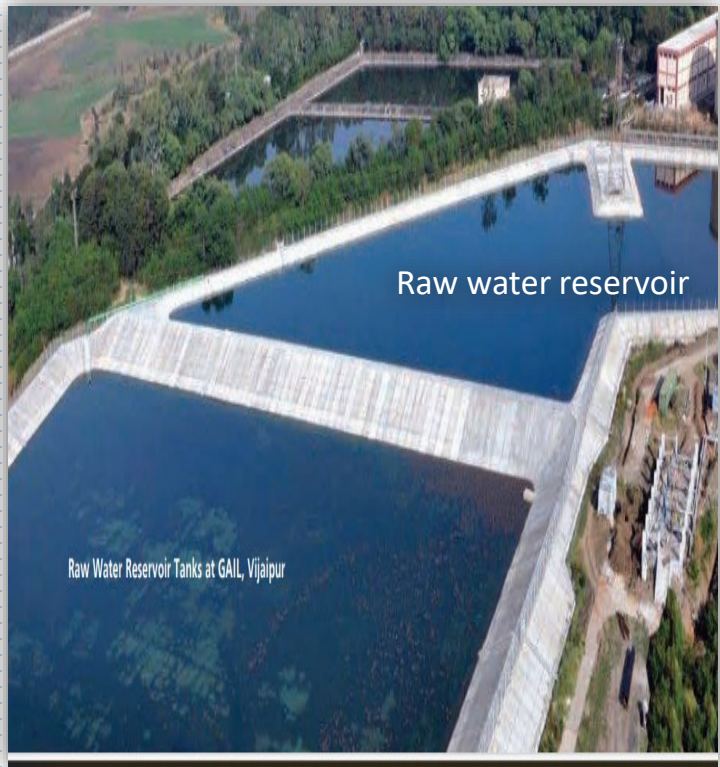
*Capturing Sunshine for Reducing Carbon Emissions*

**Investment: Rs.62.57 Cr**





# 7.8 Floating solar power plant



Raw water reservoir

Raw Water Reservoir Tanks at GAIL, Vijaiapur

**Investment: Rs.63 Cr**

***Wisdom in harnessing solar***





# 1.8 MW Solar project



*Moving to the bright side with solar power*

**Pooja ceremony of the solar project site work by OIC GAIL Vijaipur**



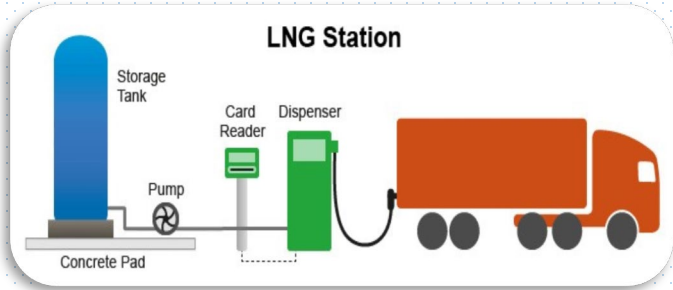
# LHC storage Augmentation

Implementation of LPG Mounded bullets for ensuring redundancy for LPG storage.-Inc in capacity 3208 MT .





# Commencement of work for GAIL's first LNG Transport Fuel dispensing station



**Location: A.B Road Highway,  
Near GAIL Vijaipur**

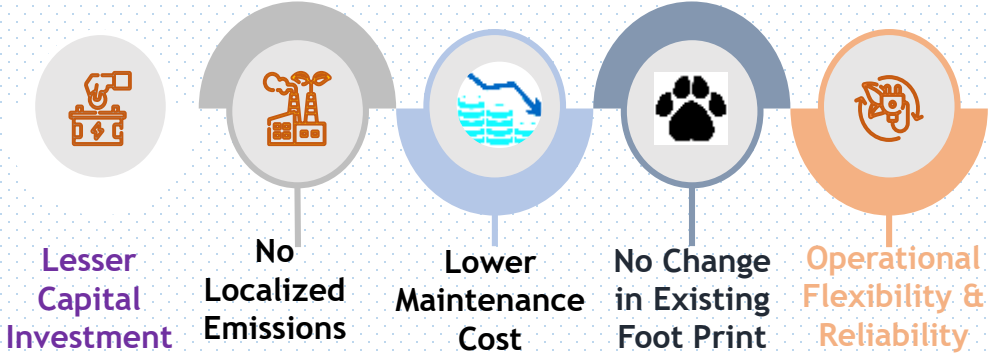
**Capacity: 56 KL**



*"Making strides in Clean Energy through developing  
LNG as Transport Fuel  
- As a New Vertical of GAIL"*

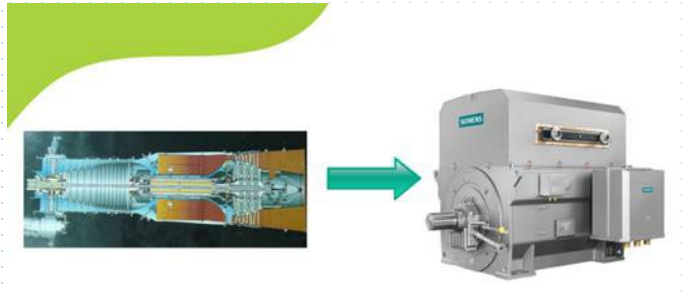
# Electrification of Gas Turbines

## Merits of Electric Driver as Prime Mover:



### PROJECT FEATURES

- Installation of **Motors of High Efficiency (95%)**
- Envisaged CO2 saving **Approx. 6500 TPA**
- Short term target towards **GAIL Net Zero 2040 Aspirations**



Replacement of Gas Turbine Drive with Electric Motor Drive

### Equipment supplies by M/s Siemens



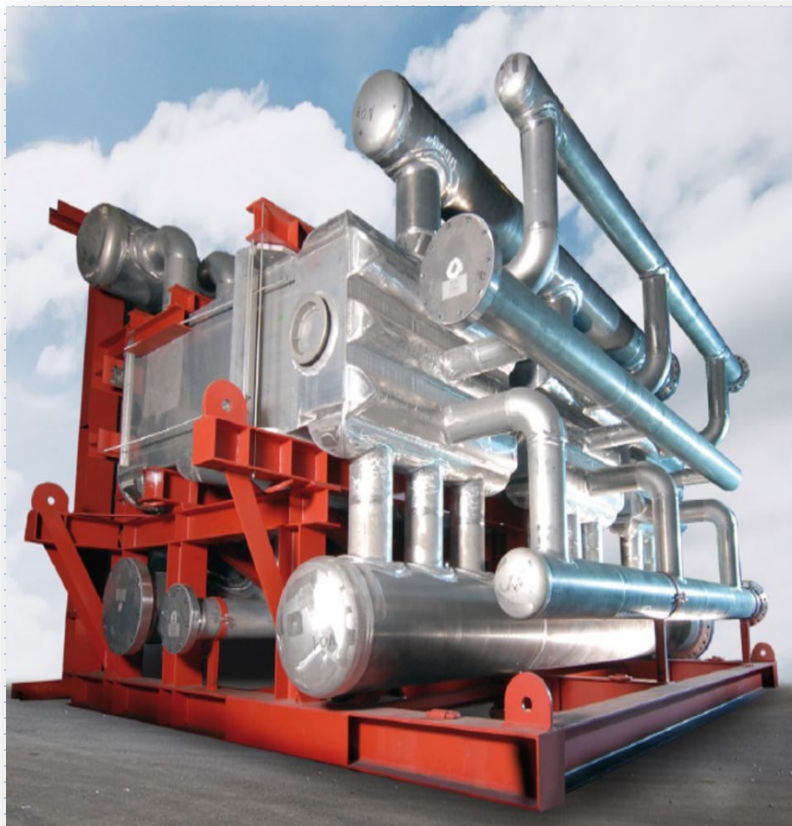


## Product Recovery improvement project

**Efficiency enhancement  
project at LPG Vijaipur.**

**Capacity:** Increase in LHC of  
100MT & C2C3 of 192MT

**Status:** Procurement u/p





# CSR PROJECTS AT GAIL VIJAIPUR

Total Budget for FY 2023-24: Rs 11.43 crores

## GAIL-Arogya

- Projects-05
- Budget-3.52cr.
- Beneficiaries-80,000
- Area-100Km radius to GAIL-Vijaipur



## GAIL-Kaushal

- Projects-02
- Budget-3.08cr.
- Beneficiaries-10,000
- Area-100Km radius to GAIL-Vijaipur



## GAIL-Ujjwal

- Projects-03
- Budget-4.42cr.
- Beneficiaries-50,000
- Area-100Km radius to GAIL-Vijaipur



## GAIL-Saksham

- Projects-02
- Budget-45lacs
- Beneficiaries-5,000
- Area-100Km radius to GAIL-Vijaipur





## Net Zero Initiatives



# Roadmap to Net Zero by 2040

## Operational Decarbonization

- Bringing energy efficiency measures equivalent 20 MMSCM fuel up to 2040
- 20 % Hydrogen blending and replacing 80 MMSCM natural gas.
- Conversion of Gas turbines into electric drives equivalent 110 MMSCM fuel up to 2040
- Rerouting entire flare and NG venting into fuel.

## Energy Transition

- Booking of Compressed Bio gas, setting up compressed bio gas plant equivalent 120 MMSCM.
- Procuring power through long term renewable energy contracts.
- Replacing entire Gas based Power generation to solar and non-solar renewable energy.

## Carbon Capture, Utilization and storage

- Utilization of direct vented CO<sub>2</sub> (approx. 420 TMT) into production of specialty chemicals, production of urea under carbon capture storage and utilization projects.

## Offsetting

- Maintaining 1 Lacs mature trees and increasing size to 1.2 Lacs trees up to 2040
- Exploring carbon credit markets and offsetting 50,000 TCo<sub>2</sub>e via carbon credit purchase route.





# Ongoing Net Zero Initiatives

- ❑ Conversion of Gas Turbine Drive to Electric Drive for Compressors at HVJ Station
- ❑ MoU With SIEMENS: Pilot Study for co-firing of 5% volume of H<sub>2</sub> in Gas Turbines at C2C3 Plant
- ❑ Fugitive Emission Surveys: Global Methane Initiative to reduce greenhouse gas (GHG) emissions.
- ❑ Electrification of NG Driven Equipment for GPU: Preliminary Feasibility Study for GPU
- ❑ Vapour Recovery in Naptha TLG
- ❑ Sourcing of Green Power
- ❑ Installation of Solar Power Panels





# Awards & Accolades

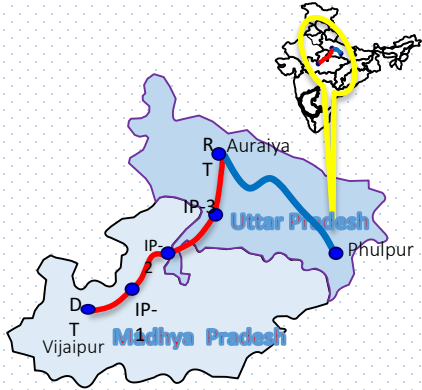




# Awards & Recognitions

## 36" X 352 Kms VIJAIPUR-AURAIYA PIPELINE (VAPL) WON

### BEST MANAGED PROJECT OF THE YEAR (2022) BY FIPI



Vijapur-Auraiya Pipeline Project





# Awards & Recognitions

GPU Vijaipur, becomes the first unit of GAIL , recommended for  
“**DIAMOND AWARD**”

in “National Award for Manufacturing Competitiveness 2022.”

*Issued by International Research Institute for Manufacturing*



*Received 3 GOLD Medal in NAMC in a row*



## DIAMOND AWARD

As Per NAMC , the diamond trophy is for organization that have performed beyond the expectation of the gold medals towards becoming globally competitive. The only criteria for the Award is that the facility should have won gold medal thrice in last editions of NAMC.



# Awards & Recognitions



18th National Awards for Excellence in Cost Management-2022



# Awards & Recognitions

Another Feather in GPU Vijaipur Cap

**“AATMANIRBHAR (SELF-RELIANT) NATION BUILDER AWARD ”**

*Issued by International Research Institute for Manufacturing*




**GAIL STANDS COMMITTED FOR A AATMANIRBHAR BHARAT**

*Based on initiatives taken for making self-Reliant Nation*







**GPU Vijaipur -Safety Innovation Award – 2023 -Institution of Engineers (India) Delhi**



**Suraksha Puraskar-GPU Vijaipur & Certificate of Appreciation HVJ CS Vijp NSC Mumbai-17.03.2023**



**“Energy Transition Award(Non-Renewable Category)” At ETenergy Leadership Summit -2022**



# Awards & Recognitions

## CMD Trophy for best QC project

## 16<sup>th</sup> Knowledge & Experience Sharing Seminar (Winners)



GAIL Management felicitating Quality Circle Project Winners to promote culture of excellence in operations and maintenance

Topic: Troubleshooting of High Vibration in High Speed (HS) shaft of Gas Turbine Generator (GTG)	Topic: Replacement of existing 3 nos. PRC (101.06 MT each) with advanced technique of hydraulic lifting gantry system	Topic: Green Hydrogen Unit at GAIL Vijaiapur "The path to Net Zero"
Category: O&M of GPU/ LPG and LNG Plants Winner	Category: O&M of GPU/ LPG and LNG Plants Runner Up	Category: New Business Areas/ Avenues Winner

### Total Quality Management :

- Team Sambhav won Gold trophy in QCFI Jaipur Chapter
- Team Prayaas Gold Award at 34<sup>th</sup> Convention on Quality Concepts Delhi
- Team JALTARANG received Gold trophy at QC Delhi sub chapter Jaipur
- Team Spartans & Achievers won PAR Excellence award NCQC 2022 at Aurangabad
- Team Suraksha received Gold award in 13<sup>th</sup> CCQC Jaipur Chapter







# Thank You

Tomorrow is Yours, with green Energy for **PEOPLE & PLANET**

