



20th
FOUNDATION DAY



DOWNSTREAM DIGITAL

*Digitising India's Downstream
Oil & Gas Ecosystem*

IT DIVISION

ANNUAL ACHIEVEMENTS BOOKLET

2025-26

INSIDE THIS BOOKLET



DATA-DRIVEN REGULATION
NHIMS & Digital Intelligence



DIGITAL PLATFORMS & E-GOVERNANCE
ePortal, Applications & MyPNG



SECURE DIGITAL INFRASTRUCTURE
Network, Cybersecurity & Resilience



STRATEGIC OUTREACH
Media, PR & Digital Engagement



BUILDING DIGITAL CAPABILITY
People, Skills & AI for Productivity



**Technology is our enabler.
Capability is our strength.
Impact is our promise.**

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Executive Summary

In an increasing digital energy landscape, technology is no longer merely an enabler of organisational functions; it is becoming a core capability that determines how effectively an institution can operate, analyse information, collaborate with stakeholders and discharge its regulatory mandate. At the Petroleum and Natural Gas Regulatory Board (PNGRB), the PNGRB IT Division has been at the forefront of this transformation, working to build a resilient, secure and future-ready digital ecosystem for the organisation.

The Information Technology (IT) Division of the Petroleum and Natural Gas Regulatory Board (PNGRB) acts as the digital backbone of India's downstream energy regulatory ecosystem. Operating under the statutory mandate of the PNGRB Act, 2006, the division transitions the board toward a data-driven, transparent, and digitally secure regulatory approach. It manages the integration of technology to enhance industry compliance, process financial workflows, and monitor critical hydrocarbon infrastructure.

Over the past years, the PNGRB IT Division has focused on strengthening the foundational pillars of PNGRB that is Digital Transformation, IT infrastructure and Security, Capability Building and AI at workplace and the National Hydrocarbon Infrastructure Monitoring System (NHIMS). Together, these pillars have helped to enhance the organisation's operational efficiency while creating capabilities that support informed decision-making and effective regulatory oversight of the petroleum and natural gas sector.

The division has enabled users to access digital systems and organisational resources more efficiently, supporting seamless collaboration and reducing technology-related constraints in day-to-day functioning.

NHIMS: National Hydrocarbon Infrastructure Monitoring System

To support India's expanding energy space, with an ever-increasing infrastructure and huge amount of data that it generates; PNGRB has conceived a technology-enabled initiative for an effective data-supported regulatory oversight.

The National Hydrocarbon Infrastructure Monitoring System (NHIMS) is PNGRB's flagship initiative which is a fusion of emerging Information and Communications Technology (ICT) on Geographic Information System (GIS) & Remote Sensing (RS), Geo databases & Data Analytics. Hosted on the National Government Cloud, NHIMS integrates Geographic Information Systems (GIS), remote sensing, mobile applications and advanced analytics to bring spatial, infrastructure and analytical information onto a common platform.

NHIMS brings together Geographic Information Systems and remote sensing, mobile technologies, messaging, geodatabases and data analytics within a service-oriented architecture built on open-source Java technology. A secure API-based framework enables

participating petroleum and natural gas entities to exchange data seamlessly, supported by alerts and notifications.

Its unified geospatial view places infrastructure alongside state, district and village boundaries, major roads, railways, forests, water bodies and high-resolution satellite imagery, creating a richer basis for planning and oversight. The eBulletin Board enables daily monitoring of operational petroleum and natural gas infrastructure and pipeline capacity utilisation, while dashboards, queries, reports, charts and analytical tools turn data into usable regulatory intelligence. Mobile-enabled geo-tagging and feedback strengthen information from the field.

Through this integrated digital capability, NHIMS will support more data-driven, evidence-based and technology-enabled regulation of critical hydrocarbon infrastructure.

Digital Transformation

Among the several digital initiatives taken by PNGRB IT Division, the development of e-Portal serves as a strategic single digital interface for regulatory interaction. With features such as online application processing, digital document submission, status tracking, monitoring dashboards and integrated grievance redressal, the portal reduces dependence on physical processes while improving access to regulatory services and information.

By phasing out physical submissions in favour of a centralized digital platform, the Petroleum and Natural Gas Regulatory Board (PNGRB) enhances both operational oversight and stakeholder interactions.

The next phase of this journey is the development of a Unified Portal, envisaged as a centralised digital platform integrating multiple PNGRB applications. By bringing disparate systems together, the portal will improve data integrity, ease of access and usability for both internal users and stakeholders.

The migration of e-Office to the cloud has further enabled secure and accessible paperless file management, supporting continuity of operations beyond the confines of physical office infrastructure. The implementation of SAP Business One, along with the continued development and maintenance of web applications, databases and supporting IT infrastructure, has further strengthened the organisation's enterprise technology environment. Collectively, these initiatives are aimed at building a more connected, accessible and efficient digital ecosystem to support PNGRB's regulatory and organisational functions.

Infrastructure and Security Posture

As PNGRB's digital footprint expands, cybersecurity has become an integral component of institutional capability. The PNGRB IT Division has therefore adopted a proactive approach towards protecting the organisation's digital assets, systems and information.

The PNGRB IT Division has also adopted a multilayer security architecture across the IT

infrastructure, based on the principle of defence-in-depth. Security controls are implemented across multiple layers, including network and perimeter security, endpoint protection, identity and access management, application security, data protection, vulnerability management, security monitoring and backup and disaster recovery. This layered approach ensures that the compromise or failure of any single security control does not expose the organisation to a single point of failure, thereby strengthening PNGRB's overall cyber resilience.

The deployment of Next-Generation Firewalls and Endpoint Detection and Response (EDR) solutions among other things has strengthened PNGRB's ability to detect, prevent and respond to evolving cyber threats. These measures represent a shift from simply protecting individual systems towards building a more comprehensive and resilient cybersecurity environment.

Regular Security Audits and Vulnerability Assessments for systems are also conducted by the PNGRB IT Division to identify security gaps, ensure timely remediation of vulnerabilities and maintain compliance with the policies and guidelines established by MeitY and other applicable cybersecurity frameworks. These measures contribute towards ensuring that PNGRB's IT infrastructure remains secure, resilient and better prepared to withstand evolving cyber threats.

The Division's future focus also extends beyond PNGRB's internal ecosystem. The development of *Baseline IT Infrastructure Guidelines for CGD Entities* is aimed at establishing a common foundation for baseline IT best practices across the sector. This is particularly important as critical petroleum and natural gas infrastructure becomes increasingly dependent on interconnected digital systems. Strengthening cybersecurity capabilities across regulated entities can contribute to a more secure and resilient energy ecosystem.

Capability Building and AI Adoption

PNGRB's IT Division over the past year has undertaken an approach that endeavours to build upon human calibre through building capabilities that make the workforce more efficient in executing the workflows.

From building customised, need-based integrated applications that presents better data; data that enables better analytics and decision-making; and secure data-environment that ensures that this digital ecosystem remains trusted and resilient.

Capability building is ultimately about preparing an organisation for what lies ahead. For PNGRB, the digital transformation journey is creating the foundations for a regulatory ecosystem that can respond to a rapidly evolving energy sector. The PNGRB IT Division is moving towards a framework to support PNGRB's vision of establishing a world class regulatory regime that provides affordable and sustainable oil and gas energy to consumers through a vibrant and competitive energy market.

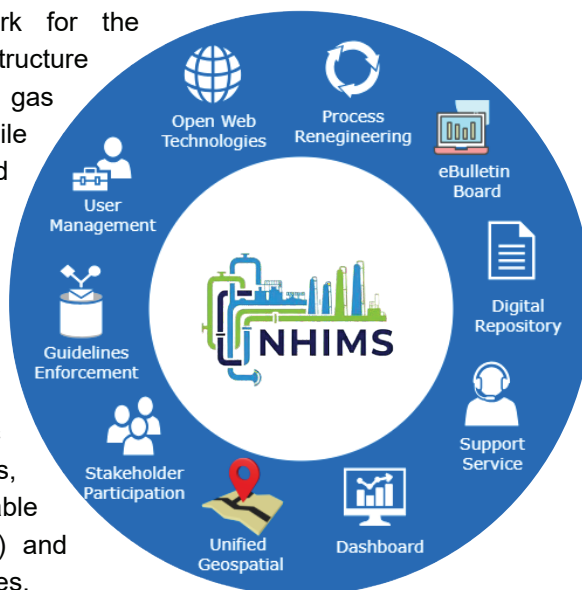
Chapter 1: NHIMS: Powering Data-First Governance for India's Hydrocarbon Infrastructure

1.1 Digitalisation: The Need of the Hour

Today's era of e-Governance is defined by the fusion of technology: high-bandwidth connectivity, cloud resources, SCADA integration, digital payments, Artificial Intelligence, locational services and high-resolution satellite imagery. In keeping with this mobile-first vision of empowering citizens, the Petroleum and Natural Gas Regulatory Board (PNGRB) has developed the National Hydrocarbons Infrastructure Monitoring System (NHIMS), a data-first application that brings the country's entire petroleum and natural gas infrastructure onto one secure, real-time digital platform.

1.2 Objectives of NHIMS

NHIMS establishes a secure framework for the collection, processing and analysis of infrastructure data, drawing real-time inputs from oil and gas entities through API integration and a mobile application for geo-tagging, feedback and inspection. It maps refineries, petroleum and natural gas pipelines, LNG terminals and stations, POL storage depots, LPG bottling plants, and CNG/CBG/RO stations, integrating them with administrative boundaries, roads, railways, forests, water bodies and satellite imagery for a holistic view. Bulletin boards, dashboards, reports, thematic maps and analytics together enable identification of Geographical Areas (GA) and CGD network serviceability within 100 metres.



1.3 Salient Features

The portal offers rich GIS functionality, including distance and area calculation, GA boundary demarcation, and identification of left-over or overlapping areas. Its mobile application supports field-level geo-tagging and inspection of under-construction pipelines. NHIMS is hosted on the National Government Cloud (Meghraj 2.0), with NIC, MeitY, Government of India as technology partner, ensuring compliance with government security guidelines, and features an integrated, TRAI-exempted SMS gateway for stakeholder alerts.

1.4 Functional Architecture

Built on a resilient cloud architecture with disaster recovery, NHIMS integrates seamlessly with major oil and gas entities, including GAIL, GSPL Transmission Limited, IOCL & PIL through REST web services, powering the dashboard, reports, GIS layers and SMS alerts from a single application backbone.

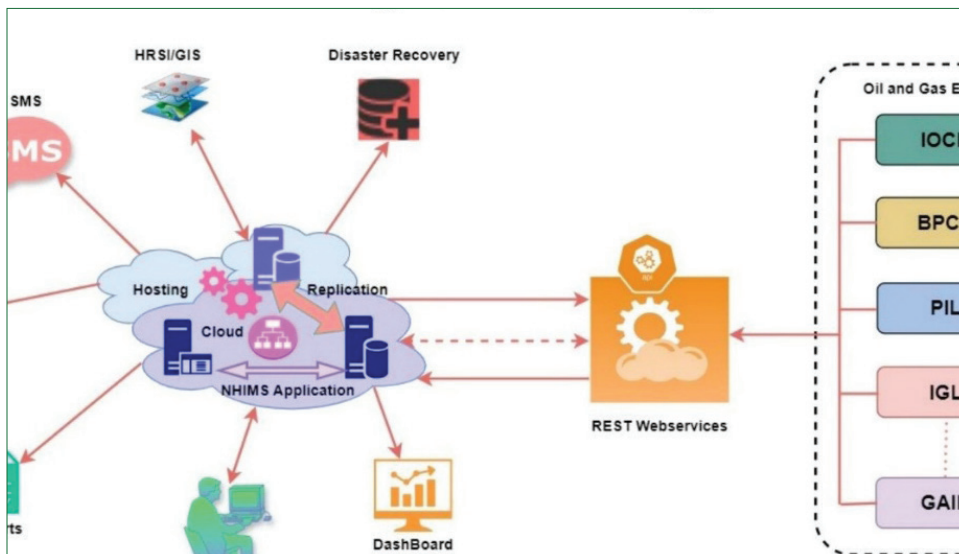


Fig. 1: NHIMS Functional / Application Architecture

1.5 Dashboard and GIS Mapping

The interactive dashboard consolidates entity-wise counts of pipelines, entry and exit points, storage terminals, refineries, and CNG, CBG and LNG stations, alongside authorised versus operational pipeline length. The GIS map overlays this infrastructure on high-resolution imagery, enabling precise distance and area measurement for planning, monitoring and enforcement.



Fig. 2: NHIMS Dashboard showing entity-wise infrastructure summary

1.6 NHIMS Bulletin Board

Daily operational Petroleum Product & Natural Gas data acquisition through API from the respective entities in the morning hours on total sourced & delivered quantities. The Bulletin Board offers daily operational data of pipelines such as entry and exit points, compressor and



Fig. 3: GIS Map depicting the national pipeline network

pumping stations, capacity utilisation, and gas quality parameters, including temperature, pressure, GCV, methane and sulphur content, offering a real-time visual picture of product movement across the network. Data analytics on Capacity Utilization is also available in NHIMS.

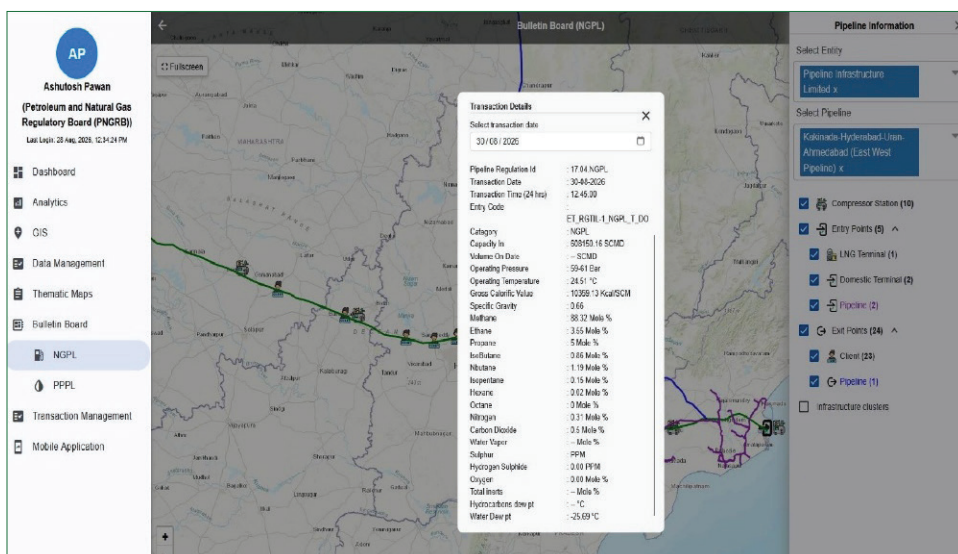


Fig. 4: Bulletin Board with transaction and gas-quality details, East-West Pipeline

1.7 Mobile Application for Geo-Tagging and Inspection

Available on the Google Play Store, the NHIMS mobile application gives field officers secure login, geo-tagging, inspection and feedback capture on the move, with data synced seamlessly to the NHIMS central system in real time.

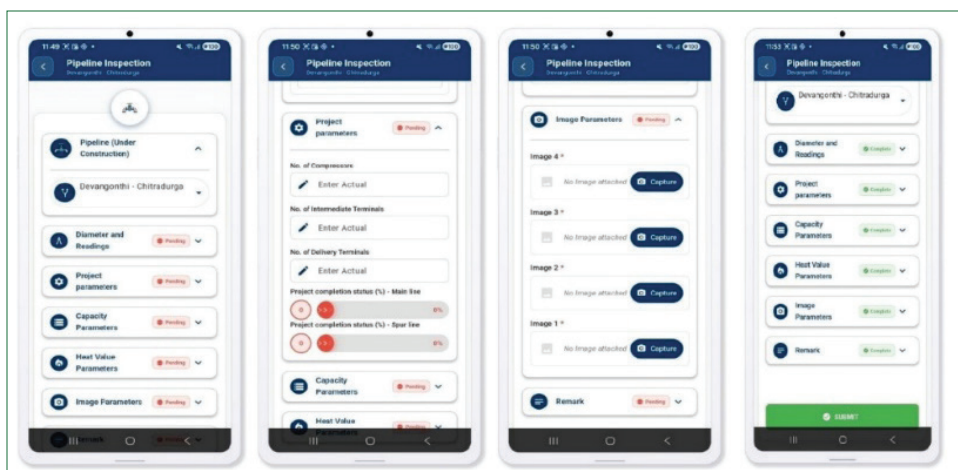


Fig. 5: Mobile application screens for pipeline inspection

1.8 GA and CGD Network Serviceability

A distinctive citizen-facing feature lets any user check CGD network serviceability within 100 metres of a chosen location, simply by entering coordinates or picking a point on the map, revealing the relevant GA, nearest pipeline distance and serving entity.

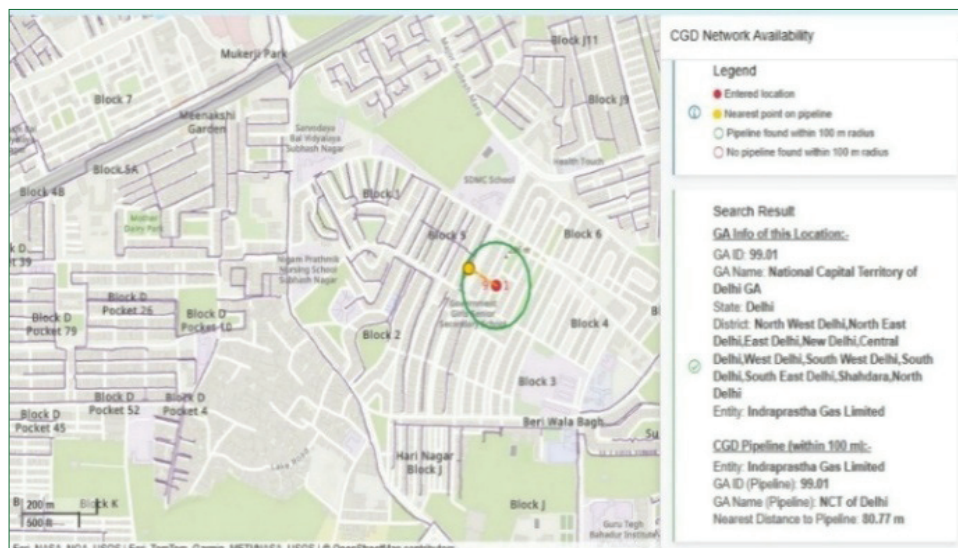


Fig. 6: GIS-based CGD network serviceability check, Delhi NCR

1.9 Conclusion

NHIMS represents a significant step towards data-first and technology-enabled governance of India's petroleum and natural gas infrastructure. By bringing infrastructure data from oil and gas entities onto a secure, centralised digital platform, NHIMS enables enabling real-time monitoring, deeper analysis, and smarter planning across the country's hydrocarbon network.

At its core, NHIMS fuses API-based data acquisition, GIS mapping, satellite imagery, cloud infrastructure, and mobile geo-tagging into one powerful ecosystem — bridging the gap between field reality and centralised oversight. Its dashboards, thematic maps, bulletin boards, and analytical tools deliver unprecedented visibility into pipelines, terminals, refineries, storage facilities, and CNG/CBG/LNG stations, along with live insights into their operational status and capacity utilisation.

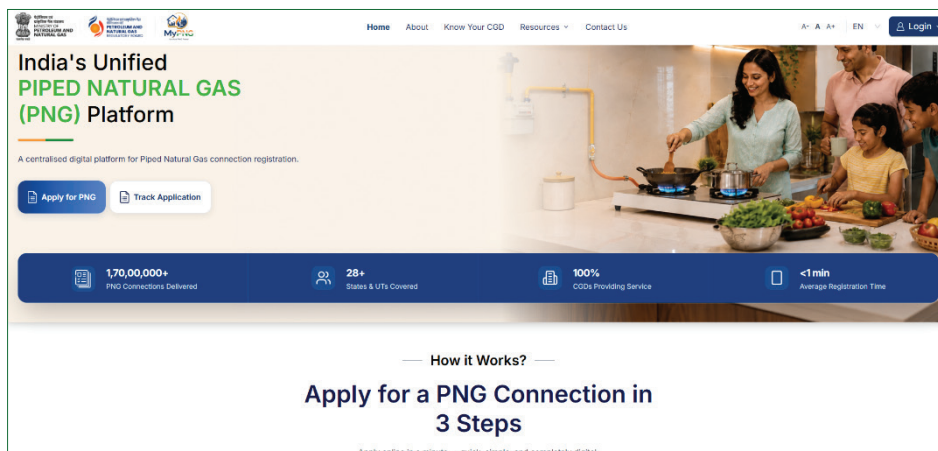
With the GA and CGD Network Serviceability feature, NHIMS goes a step further — turning infrastructure data into a citizen-facing service. Users can instantly identify their Geographical Area (GA), the nearest pipeline, and the entity serving their location, putting critical information directly in the hands of the public.

The NHIMS mobile app extends this intelligence to the field itself, empowering geo-tagging of PNG assets and enabling audits and inspections in real time directly from the field — closing the loop between ground truth and centralised data.

In essence, NHIMS is more than a monitoring system — it is the digital backbone of India's hydrocarbon infrastructure, driving transparency, accountability, and efficiency at scale. It stands as a cornerstone of PNGRB's vision for a data-driven, citizen-connected, and future-ready energy sector.

Chapter 2: Applications Portfolio

2.1 MyPNG Unified Portal



Purpose: This is another upcoming flagship citizen-focussed initiative of MoPNG and PNGRB with its core objective being to promote Piped Natural Gas (PNG) as the preferred household fuel nationwide and minimize dependence on Liquified Petroleum Gas (LPG).

Guided by the vision of “One Nation, One PNG Portal”, the National PNG Digital Governance & Citizen Service Platform makes applying for a new PNG connection and switching from LPG to PNG simple for every citizen — a single, standardized, secure and mobile-responsive interface to apply for a new PNG connection, irrespective of which City Gas Distribution (CGD) entity serves their area. Integration with Geographic Information System (GIS) and the Common LPG Database Platform (CLDP) enables existing LPG consumers to be identified and seamlessly migrated to PNG, while PNGRB, MoPNG and CGDs get centralized dashboards and analytics to monitor onboarding, service levels and LPG-to-PNG transition progress across the country.

2.1.1 Why a National Platform

PNG onboarding today is fragmented across 40+ CGD-specific portals, resulting in inconsistent citizen experience, limited centralized visibility, operational inefficiencies and constrained regulatory monitoring. A unified platform standardizes onboarding, improves transparency, enables centralized Service Level Agreement (SLA) and complaint governance, and supports data-driven regulatory oversight — functioning as foundational national digital infrastructure under the broader vision of Digital India and clean energy adoption.

2.1.2 National Objectives

- **Minimize LPG dependence, maximize PNG adoption:** Drive nationwide transition of households from cylinder-based LPG to safe, convenient piped natural gas.

- **Standardize onboarding:** One consistent, citizen-centric application journey and service governance model across all CGDs.
- **Centralize visibility:** Real-time view of application processing, operational performance and service delivery timelines.
- **Strengthen regulatory oversight:** Live dashboards, analytics, SLA monitoring and grievance governance for PNGRB and MoPNG.
- **Improve transparency & auditability:** End-to-end application traceability, data quality and accountability across the ecosystem.
- **Enable data-driven planning:** Centralized demand and serviceability insights for PNG infrastructure expansion.
- **Build a national PNG registry:** A single customer registry, linked to CLDP, tracking LPG-to-PNG migration and supporting future subsidy and policy initiatives.
- **Create a future-ready foundation:** Scalable digital base for integrated utility services and evolving regulatory needs.

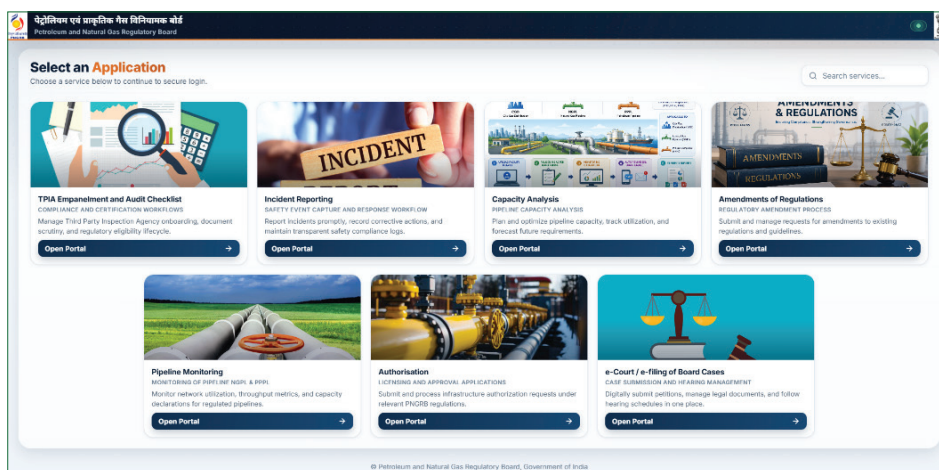
2.1.3 Key Features & Capabilities

- **Secure onboarding journey:** OTP-based mobile authentication with configurable retry limits, expiry controls and validation policies for a safe, standardized citizen application journey.
- **CLDP integration:** Auto-retrieval of existing LPG customer information from the Common LPG Database Platform to eliminate repetitive data entry and improve onboarding accuracy.
- **GIS serviceability validation:** Confirms PNG network availability at the applicant's address, identifies the applicable Geographical Area (GA) and maps the customer to the correct CGD entity.
- **Unified Application ID & tracking:** Centrally generated unique PNG Application ID with complete lifecycle tracking, auditability and cross-system traceability.
- **Consent & declarations:** Digital capture of customer consents and declarations, including address and geo-location management.
- **CGD integration & redirection:** Secure API-driven routing of applications to CGD systems, status synchronization, and redirection to CGD portals for payments and pipeline installation scheduling.
- **Grievance redressal & support:** Standardized complaint registration, tracking and centralized resolution-time visibility across all participating CGDs.

- **Notifications & multilingual support:** SMS and portal notifications across the application lifecycle, delivered on a multilingual, mobile-responsive interface.
- **Dashboards & KPIs:** Role-based CGD and PNGRB dashboards for application tracking, SLA compliance and operational performance monitoring.
- **Channel Partner / DMA portal:** Assisted onboarding through authorized channel partners, along with reassignment of rejected applications.

2.2 PNGRB ePortal

The Petroleum and Natural Gas Regulatory Board (PNGRB) e-Portal acts as a unified digital gateway for regulatory operations. It aggregates multiple domain-specific web applications designed to automate compliance, optimize energy infrastructure monitoring, and transition judicial and commercial processes into a paperless ecosystem. It is treated as the cornerstone allowing authorized entities across 300+ Geographic Areas (GAs) to securely submit and report



operational data including tracking over the entire nation-wide Gas Infrastructure. The primary applications hosted on the PNGRB e-Portal along with their salient features are detailed in the following pages.

2.3 The Third-Party Inspection Audit (TPIA) Empanelment and Third-Party Certification Audit (TPCA)

Challenge: Oil and gas operations require rigorous vetting under PNGRB's safety frameworks, including the Technical Standards and Specifications including Safety Standards (T4S), Emergency Response and Disaster Management Plan (ERDMP), and Integrity Management System (IMS). Previously, managing agency documentation and eligibility criteria manually was time taking and prone to errors. A significant challenge in the industry was that private oil and gas entities could select their preferred TPIAs, sometimes choosing agencies based on lower

pricing or lenient practices rather than technical competency. Also, with multiple downstream entities, tracking which facility had active, pending, or expired safety certifications was difficult.

Total Audit Request1168

Approved1114

Not Approved54

Total Audit1114

Final Submit2

Pending Audit1112

Total no. of TPIA Request105

Approved21

Not Approved84

AUDITS

Show10entries

Search

Audit Code	TPIA Name	Entity	Installation	Audit Type	Audit Sector	Date Range	Entity Status	Status	Action
ADT-1155	Certification Engineers International Limited	Shell Energy India Private Limited	Bengaluru Rural and Urban Districts	ERDMP	RO	05/10/2026 - 05/10/2026	Not Submitted	Not Submitted	

Solution: To resolve the above challenges, the PNGRB IT Division, in association with Technical Division, introduced the TPIA and TPCA portal to digitize the entire TPIA onboarding, document scrutiny, and regulatory eligibility lifecycle, making agency empanelment faster and more verifiable. The portal also provides a unified framework to implement Quality and Cost Based Selection (QCBS) and standardized man-day calculations to guarantee fair, independent assessments supporting dedicated Audit and Reporting Modules that allows to oversee sector-wise permissions for auditors and monitor compliance records in real time. Also, digitizing audit records prevents the falsification of safety certificates and creates a permanent, tamper-proof record of corrective actions. If an agency submits substandard work or fails an inspection checklist, the portal logs the rejection, making it easier for the PNGRB to enforce penalties or de-empanel non-performing agencies.

2.4 Incident Reporting

Challenge: Traditional paper, email, or spreadsheet-based incident tracking often delayed crucial safety data from reaching decision-makers and fragmented documentation made it nearly impossible to cross-examine incident reports effectively. Also, manual processes often led to varying levels of detail and incomplete descriptions.

Incident Analytics Dashboard

Live monitoring & report tracking

All Incidents

Refresh

TOTAL INCIDENTS

22

All time records

SUBMITTED

22

Schedule-VI submitted

PIR REPORTS

15

Internal PIR Rptgs

EXTERNAL PIR

1

External PIR Rptgs

FINAL REPORTS

15

PIR finalized

Recent Incidents

Latest incident reports and their current status

Search incidents...

10 records

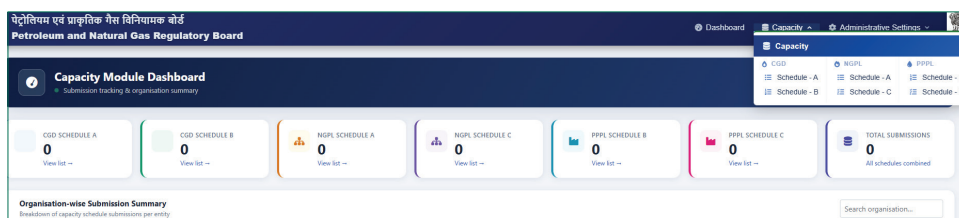
INCIDENT NO.	ORGANIZATION	SECTOR	STATE	DATE	REPORTS	STATUS	ACTION
2	Bharat Petroleum Corporation Limited	RO	N/A	27 Aug 2026	5-VI PIR-INT	FINAL REPORT	View
2026/01	Indian Oil Corporation Limited	RGP	N/A	26 Jun 2026	5-VI	SUBMITTED	View
10CL/Read/26-27/01	Indian Oil Corporation Limited	ROAD	N/A	26 Jun 2026	5-VI PIR-INT PIR-INT	FINAL REPORT	View

Solution: In order to make the process seamless, automated and efficient the PNGRB IT division in association with the Technical Division, introduced the Incident Reporting portal to streamline the reporting of safety events across India's downstream oil and gas sector. The platform facilitates structured incident submissions, lifecycle workflow tracking, and centralized

data analysis to enhance regulatory oversight and safety compliance followed by real-time digital submission ensuring that emergencies and near-misses are addressed immediately. Centralizing this information into a secure platform automated data analysis to identify broader industry safety trends and root causes. The portal also supports active workflows to record corrective actions, track continuous follow-ups, and log structural safety updates until final closure ensuring compliance tracking is automated, tamper-proof, and aligned with standard technical and safety frameworks.

2.5 Capacity Analysis

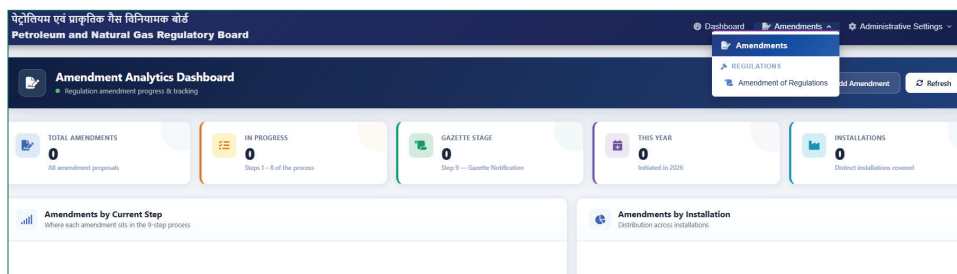
Challenge: By law, pipeline operators must reserve a specific percentage of their capacity for third-party shippers on an open-access, non-discriminatory basis. Previously, different pipeline companies used varying parameters, assumptions, and software models to declare their capacities, leading to inconsistencies. Manually compiling massive flow, pressure, and volume data sheets for regular regulatory submissions was time taking.



Solution: In order to mitigate these challenges, the PNGRB IT division in association with the Technical Division, introduced a digital Capacity Analysis portal standardizing mathematical calculations and pipeline flow modelling parameters to establish a uniform single source of truth for available volumes. The portal logs capacity data transparently, ensuring that bookings or rejections are backed by verifiable data. The portal also automates the capacity declaration workflow, allowing operators to submit and PNGRB to audit capacity data seamlessly.

2.6 Amendment of Regulations

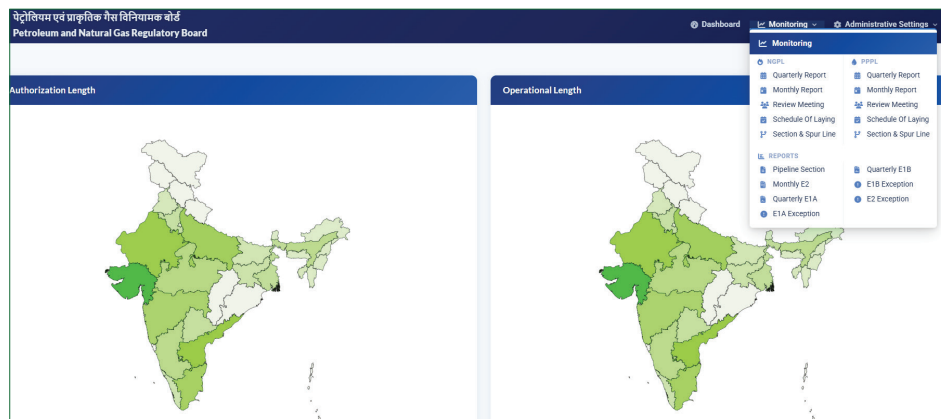
Challenge: As the oil and gas sector is evolving rapidly with new technologies and changing global safety standards, altering regulations requires continuous public consultation. Previously, gathering feedback via physical letters, faxes, and scattered emails led to missed inputs. Tracking multiple concurrent amendments across natural gas, petroleum, and city gas distribution (CGD) networks was a manual process and was prone to delays.



Solution: In order to mitigate these challenges, the PNGRB IT division in association with the Technical Division, introduced a digital Amendment of Regulations portal transforming how downstream energy regulations are updated, shifting from a slow, paper-heavy system to a transparent, digital platform. The portal allows the PNGRB to fast-track amendments, ensuring that outdated codes are updated before they become safety hazards or operational bottlenecks. Acting as an archive, the portal acts as platform where anyone can view the original regulation, the proposed draft changes, the justification for the amendment, and the final decision logs.

2.7 Pipeline Monitoring

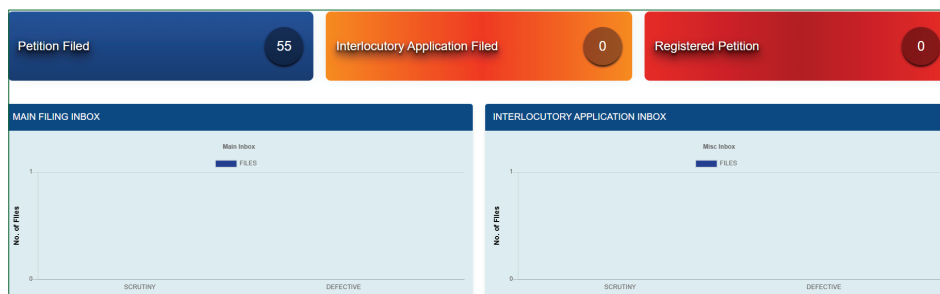
Challenge: Tracking pipeline activities across different operators was highly fragmented. Manual data submission meant that congestion or underutilization in critical pipeline sections sometimes went unnoticed.



Solution: In order to mitigate these challenges, the PNGRB IT division in association with the Monitoring Division, introduced a digital Pipeline Monitoring portal to serve as an oversight mechanism for India's massive network of Natural Gas Pipelines (NGPL) and Petroleum and Petroleum Product Pipelines (PPPL). Digital monitoring lets PNGRB evaluate where supply lines are strained or lying idle, providing data for national capacity planning support.

2.8 eCourt and eFiling

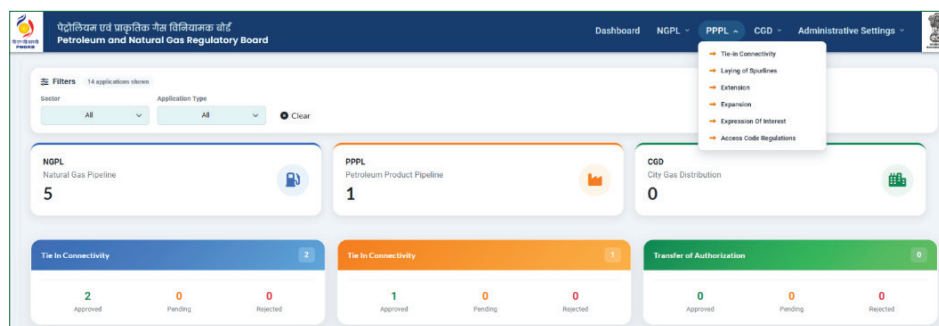
Challenge: As the sector regulator, PNGRB acts as a civil court under the PNGRB Act to adjudicate high-stakes corporate disputes, tariff disagreements, and infrastructure complaints between oil and gas entities, city gas distribution companies, and third-party consumers. Before the portal, commercial disputes required legal teams to print and ship massive binders containing hundreds of pages of pipeline schematics, tariff calculations, and legal briefs. Energy disputes frequently dragged on due to manual administrative steps, such as tracking down physically filed responses, serving physical summons to distant operators, or processing physical counter-affidavits. Also, physical legal files ran the risk of being misplaced or damaged over long, multi-year corporate battles.



Solution: In order to mitigate these challenges, the PNGRB IT division in association with the Legal Division, introduced a digital e-court/e-filing portal to transform the board's dispute resolution mechanism from a paper-based judicial process into an efficient, electronic courtroom framework allowing litigants to securely upload court documents anytime, anywhere also supporting a searchable, tamper-proof repository of past judgments and case precedents, serving as a critical single source of truth for energy law compliance across the country.

2.9 Authorisation

Challenge: With PNGRB's mainstream business of issuing clearances for City Gas Distribution (CGD) networks, Natural Gas Pipelines (NGPL), and Petroleum Product Pipelines (PPPL), the entire process relied on fragmented manual processing. Infrastructure projects went through rigorous legal evaluation phases—including Expression of Interest (EOI), competitive bidding documentation, and technical review. Manual paperwork during this process carried the risk of communication gaps regarding legal conditions or project revisions.



Solution: In order to mitigate these challenges, the PNGRB IT division in association with the Authorisation Division, introduced the Authorisation portal to digitalise the licensing and approval processes required to lay, build, operate, or expand downstream energy infrastructure across India allowing application lifecycle monitoring to track these submissions sequentially from initial draft to final board approval ensuring that all applications meet the compliance checks, rigid legal criteria, financial bids, and structural specifications uniformly. The portal also supports logging of all approval communication records centrally, creating a legally binding, transparent history of every authorization change or extension granted preventing monopoly and ensuring that corporate entities compete fairly for energy infrastructure rights.

2.10 CGD MIS Analytics Dashboard

2.10.1 Purpose and coverage

The City Gas Distribution (CGD) MIS Interactive Dashboard transforms raw quarterly filings and Management Information System (MIS) data into a consolidated, interactive workspace. It helps users track Minimum Work Programme (MWP) targets, pro-rata targets, and actual achievements across authorized City Gas Distribution (CGD) networks. Users can review overall figures, drill down into specific geographical areas, and examine detailed performance metrics without waiting for manual report compilation. This provides a user-friendly platform for analytical reports and conducting internal performance reviews.

2.10.2 Interactive filters and data register

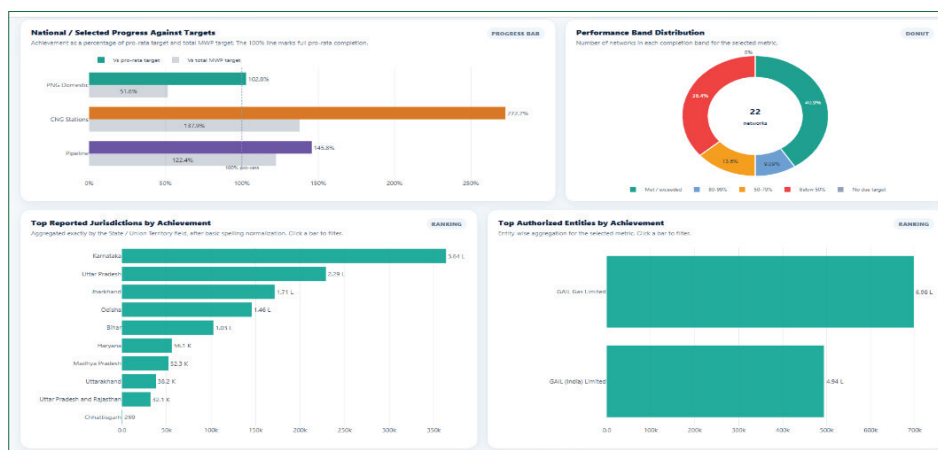
Users can filter the view by searching for specific Geographical Areas (GA), states, or entities, or by selecting a GA ID series or completion band. Selecting a state or entity directly within the ranking charts applies that filter across the entire dashboard. The figures, charts, and detailed data register update together.

2.10.3 CSV reports for further review

The Export CSV function allows compliance teams to download filtered dataset views directly. This exports the exact network-level records and metrics corresponding to active filters, eliminating manual copy-pasting from raw spreadsheets when preparing narrative reports, board presentations, or executive briefings.

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2.11 Incident Data Dashboard

2.11.1 Purpose and coverage

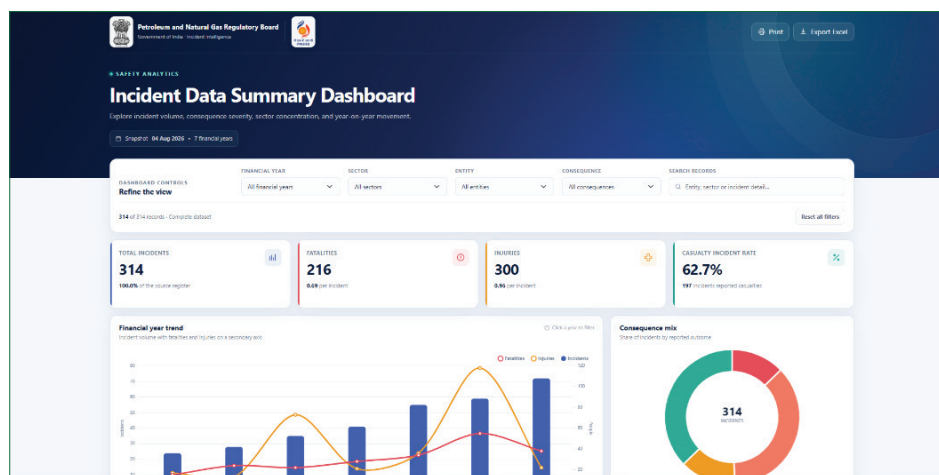
The Incident Data Summary Dashboard displays incident information and it helps users review

incidents, fatalities, and injuries by financial year, entity, and sector. Users can view overall data, select specific areas, and check incident details. It also helps in preparing reports and discussing safety issues.

2.11.2 Charts and record review:

• Five views of incident data

The financial-year chart compares incident counts, fatalities and injuries over time. The consequence chart separates incidents into fatality only, injury only, both fatality and injury, and no reported casualty. A sector chart compares incidents, fatalities or injuries across sectors. The leading-entities chart shows the top ten entities by incident count alongside affected people. The calendar chart groups figures by month to show when incidents were recorded.



• Filters and incident register

Users can filter the view by financial year, sector, entity and consequence, or search by a word in an incident description. Selecting a year, sector or entity in the relevant chart also applies a filter. The figures, charts and register update together. The register allows users to sort records, move between pages and expand descriptions. A reset button restores the full view.

• Reports for further review

The Dashboard sheet contains all five charts as images. The summary sheets show yearly figures by entity. The sector sheet groups incident details under each sector. The Entity & Sector-wise sheet lists each entity with its sectors together, including yearly figures, totals and grouped descriptions.

2.11.3 Practical use and benefits

The dashboard supports a review from summary to detail. For example, a user can select an entity, compare its sectors, read incident descriptions and export the matching figures for a meeting. Keeping these steps in one place will reduce repeated manual sorting and counting. The charts can help users identify areas for closer examination, while the register provides the context needed to understand each incident.

UNDERLYING RECORDS							
Incident register							
DATE	FINANCIAL YEAR	ENTITY	SECTOR	CONSEQUENCE	FATALITIES	INJURIES	INCIDENT DETAILS
18 Mar 2026	FY 25-26	Kochi Salem Pipeline Private Limited	PPPL	No casualty	0	0	LPG leakage incident happened at Ch. Tiller on Kochi Refinery of Kochi Salem LPG pipeline of Kochi Salem Pipeline Private Limited (KSPPL) Read more
17 Mar 2026	FY 25-26	GAIL (India) Ltd	NGPL	Fatality	1	0	Fatal incident - During Excavation work by contractor for pipeline inspection in Mahisail
13 Mar 2026	FY 25-26	BPCL	RO	Fatality	2	0	Fatal incident occurred on 13.03.2026 at Retail Outlet of Bharat Petroleum Corporation Limited
09 Mar 2026	FY 25-26	IOCL	RO	Fatality	1	0	Fatal incident occurred on 09.03.2026 at Retail Outlet of Indian Oil Corporation Limited
25 Feb 2026	FY 25-26	IOGAPL	CGO	Injury	0	1	Fire incident occurred on 25.02.2026 at Jaipur GA of Indian Oil Adani Gas Private Limited
18 Feb 2026	FY 25-26	Torrent Gas Pvt. Ltd.	CGO	No casualty	0	0	Fire incident occurred on 18.02.2026 at Moradabad GA of Torrent Gas Limited
17 Feb 2026	FY 25-26	HPCL	POL	Fatality	1	0	Fatal incident occurred during repairing of dome cover of empty TT
15 Feb 2026	FY 25-26	BPCL	RO	Fatality	1	0	Fatal incident occurred on 15.02.2026 at Retail Outlet of Bharat Petroleum Corporation Limited
12 Feb 2026	FY 25-26	IOCL	LPG	Fatality	1	0	Fatal incident inside TT Parking Area, where rear tyre of a moving TT ran over another driver resulting in fatal injury. The incident occurred while the TT was... Read more
12 Feb 2026	FY 25-26	GAIL (India) Ltd	RO	Fatality	1	0	Fatal incident occurred on 12.02.2026 at Ranchi GA of Gail India Limited

Showing 1-12 of 214 records

1 2 27

Chapter 3: Network, Infrastructure & Cybersecurity – Strengthening PNGRB’s Digital Foundation

The PNGRB IT Division with its continuous focus on building a robust and future-ready digital ecosystem, with emphasis on reliability, continuity, accessibility and secure technology adoption. The initiatives undertaken during the year reflect a cohesive effort to modernise the organisation’s technology landscape, strengthen operational capabilities and support evolving business requirements. Together, these efforts have laid a strong foundation for efficient, secure and digitally enabled functioning across PNGRB.

3.1 Key Initiatives

3.1.1 Secure Mobile & eOffice Access

To provide secure, uninterrupted connectivity without any data loss, the PNGRB IT Division successfully migrated eOffice to the cloud while provisioning Web VPN access for officers on iOS and Android handheld devices. To facilitate smooth adoption, division-wide familiarisation sessions were conducted for secure mobile access. This comprehensive initiative has significantly enhanced mobility, flexibility, and operational productivity, allowing officers to seamlessly access and process official eOffice records anywhere, anytime.

3.1.2 Enhancing Operational Efficiency and Mobility via Handheld Devices

As part of the Paperless Office Initiative, the IT Division completed the procurement of handheld mobile devices to facilitate mobile and digital working across PNGRB.

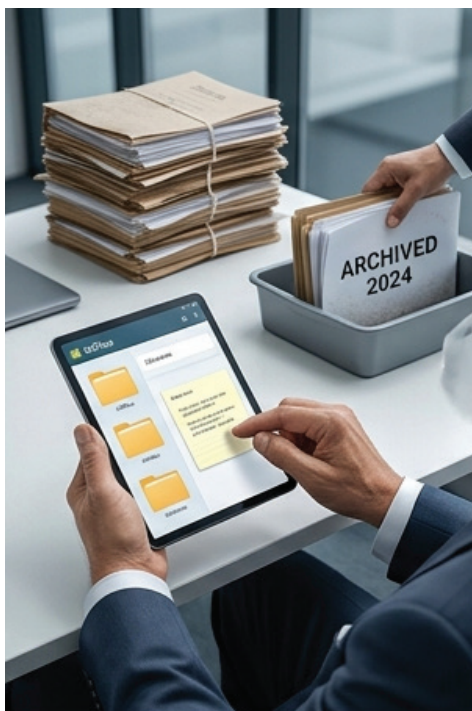
The initiative was undertaken to reduce dependence on physical files and printed documents by enabling officers to access and review eOffice files, official documents, notes and other digital information through handheld devices.

The handheld mobile devices provide officers with greater flexibility to access official records and participate in meetings without relying on physical documentation. This initiative complements

PNGRB’s broader eOffice and secure mobile access framework, supporting seamless digital workflows and improving the accessibility of official information.

The deployment of handheld mobile devices is expected to contribute to reduced paper consumption, improved operational efficiency, enhanced mobility and increased productivity,





while supporting PNGRB's continued transition towards a modern, digitally enabled and environmentally sustainable paperless working environment.

3.1.3 NICNET Connectivity & Network Resilience

As part of the initiative to strengthen PNGRB's network infrastructure and secure government connectivity, NICNET connectivity was established to provide a reliable and controlled communication channel for accessing critical digital services and IT resources. The network bandwidth was enhanced to cater to increasing application usage, higher data traffic and growing digital service requirements, thereby improving overall network performance and user experience.

To further strengthen network availability and business continuity, a redundant connectivity link was provisioned as a backup to the primary network link. This provides an additional layer of resilience and helps ensure continuity of essential IT services in the event of a failure or disruption on the primary link.

The overall connectivity enhancement has improved network capacity, reliability, availability and resilience, while providing a robust foundation for PNGRB's expanding digital operations and secure access to government network services.

3.1.4 NGC Cloud Migration

As part of the cloud transformation and infrastructure modernisation initiative, building upon the application migration, the complete IT infrastructure migration to NGC has also been initiated. The ongoing initiative covers the planned migration of supporting infrastructure and associated IT resources to the NGC environment, with the objective of establishing a centrally managed, secure and resilient cloud infrastructure.

The complete infrastructure migration will further enhance business continuity, scalability, secure





access, infrastructure management and service reliability, while aligning PNGRB's IT infrastructure with the broader Government of India cloud adoption framework and establishing a modern, resilient and future-ready technology foundation.

3.1.5 Endpoint Security & EDR

The PNGRB IT Division strengthened PNGRB's endpoint security framework through the implementation and continuous monitoring of Endpoint Detection and Response (EDR) across IT systems.

The solution provides enhanced visibility into endpoint activities and enables the identification, detection and response to potential security threats in a timely manner.

The EDR deployment strengthens protection against malware, ransomware, unauthorized activities

and other evolving cyber threats, while supporting proactive security monitoring and incident response. Continuous monitoring of endpoints helps identify suspicious behaviour and potential security incidents at an early stage, enabling appropriate remediation measures to be taken. This initiative has enhanced PNGRB's overall cybersecurity posture, endpoint visibility, threat detection and response capabilities, contributing to a more secure and resilient IT environment.

3.1.6 Enhanced Server Security

The PNGRB IT Division undertook comprehensive measures to strengthen the security, stability and resilience of PNGRB's server infrastructure, which forms a critical component of the organisation's digital ecosystem. Regular monitoring, security assessments and configuration reviews were carried out to identify vulnerabilities, outdated software components, insecure configurations and other potential security gaps at the server level.





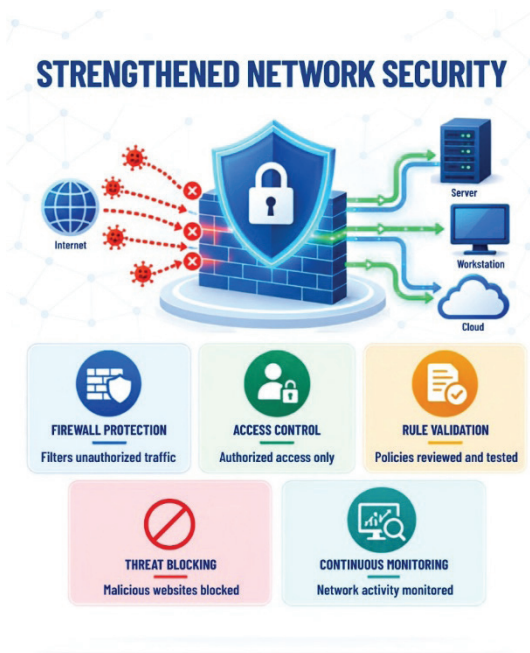
Identified vulnerabilities and configuration issues were systematically assessed and subsequently remediated through security patches, software and component upgrades, configuration hardening and implementation of recommended security controls. These activities helped reduce potential attack surfaces and minimise the risk of exploitation of known vulnerabilities. Particular emphasis was placed on maintaining updated server software, strengthening secure communication protocols and ensuring that unnecessary services, ports and access mechanisms are appropriately restricted.

3.1.7 Strengthened Network Security

The PNGRB IT Division strengthened PNGRB's network security controls through detailed review, validation and testing. The exercise focused on ensuring that network traffic and connectivity are governed through appropriate security policies and that access to critical IT infrastructure remains controlled and restricted to authorized requirements.

Firewall security was strengthened through effective traffic filtering, access-control policies, rule validation and monitoring of network communications, ensuring that only authorized and required traffic is permitted while potentially malicious or unauthorized traffic is blocked. The firewall also facilitates the blocking of unwanted, malicious and unauthorized websites and web content, thereby reducing exposure to potentially harmful online resources and cyber threats.

Security audit, firewall and access-control configurations were reviewed to identify potential gaps, validate existing security rules and ensure that required services and network communications are securely permitted. These measures have enhanced network protection, access governance, traffic control, web access security and overall security of the IT infrastructure.



3.2 Baseline IT Infrastructure Guidelines

3.2.1 About the Guidelines

India's City Gas Distribution (CGD) sector has grown rapidly, with PNGRB having authorised networks across more than 300 Geographical Areas. As CGD entities increasingly depend on digital infrastructure for consumer services, metering, billing, SCADA-based operational control, and regulatory reporting, the absence of a



common baseline standard for IT infrastructure, governance, and cybersecurity has emerged as a significant gap. In 2026, the IT Division initiated the development of PNGRB Guidelines for Baseline IT Infrastructure for CGD Entities with the objective of establishing a consistent and structured framework for IT infrastructure, cybersecurity, resilience and operational controls across the regulated ecosystem. The initiative aims to provide regulated entities with a common baseline for adopting secure, reliable and resilient technology practices.

The initiative will help establish a uniform baseline of IT and cybersecurity controls, promote stronger technology governance, improve preparedness against cyber threats, enhance operational resilience and support regulated entities in maintaining secure, reliable and future-ready IT infrastructure.

3.2.2 Why These Guidelines?

The CGD sector ranges from large multi-GA entities with millions of consumers to smaller, newly authorised entities that may operate with minimal IT staff. This diversity creates significant variation in digital maturity, cybersecurity posture, and the ability to integrate with regulatory systems.

Simultaneously, the cybersecurity threat landscape has undergone rapid transformation, with AI-assisted attacks, ransomware, and deepfake-based social engineering targeting critical energy infrastructure. For a sector that operates gas pipelines, remote safety valves, and industrial control systems, inadequate IT governance is not just a business risk — it is a public safety concern.

PNGRB has, therefore, taken up the development of these guidelines to have a formal, sector-specific IT and cybersecurity baseline framework for CGD entities.

3.2.3 Structure and Scope

The Guidelines are structured in four Parts across 21 numbered Sections, with three Annexures. Part II — the substantive core — establishes baseline requirements across ten topic areas:

- Network and Connectivity (including Zero Trust principles)
- Computing Infrastructure, Physical Environment, and Physical Security
- Data Management, Governance, and DPDP Act Compliance
- Consumer-Facing Digital Services and Multi-Channel Communication
- Metering, OT Systems, Smart Metering, and MDMS
- Business IT Systems and Accounting Compliance
- Regulatory Reporting and API Integration (NHIMS, ePortal)
- Cybersecurity Baseline — 10 sub-guidelines including AI Governance
- System Lifecycle, Software Management, and Technology Refresh
- Interoperability, GIS Integration, and Open APIs

3.2.4 Key Highlights of the Guidelines

- **OT-Aware:** Dedicated provisions for legacy OT assets, OEM-first patching, cathodic protection monitoring, and geo-fencing for third-party damage prevention — reflecting the unique safety constraints of gas distribution OT systems.
- **AI-Aware:** Guideline covers AI governance: usage policy, asset inventory, risk assessment, human oversight, AI transparency, explainability, and continuous monitoring — aligned with CERT-In's blueprint on AI-assisted threats.
- **DPDP-Aligned:** Privacy notice, consent management, Data Principal rights, data breach notification to DPBI within specified timelines, and DPO provisions for Significant Data Fiduciaries are embedded throughout the document.
- **Benchmarked:** Compared against SEBI CSCRF, IRDAI, RBI IT Framework, CEA Cybersecurity Guidelines, and international standards IEC 62443 and NIST CSF 2.0.

3.2.5 Consultation and Preparation Process

The Guidelines were prepared by PNGRB in consultation with a duly constituted Industry Committee comprising senior IT and technical officials from PNGRB and major CGD entities. The document was also reviewed against CERT-In's blueprint on AI-assisted cyber threats and the Oil Sector Cyber Security Reference Framework (OSCRF) issued by MoPNG.

Chapter 4: PR and Social Media - Making Regulation Visible

Through sustained media engagement, social media outreach and its official website, PNGRB brought its regulatory work, public-interest campaigns and institutional progress into clearer public view.

For a household considering a piped natural gas connection, regulation becomes meaningful when it relates to everyday questions of convenience, safety and service. For industry, its relevance lies in clear decisions and accessible information. Communicating across these different needs is an important part of a regulator's public responsibility.

Over the past year, the Public Relations (PR) and Social Media function, managed under the IT Division of the Petroleum and Natural Gas Regulatory Board (PNGRB), has worked to make that connection. Conferences, consumer campaigns, technical partnerships and institutional initiatives were documented and presented through media coverage, social media and the Board's website. The emphasis was on explaining the relevance of PNGRB's work, alongside reporting the activity itself.



Across the reporting period, the team documented and disseminated 27 major events and milestones. Together, this coverage offered a broader account of the Board's work: advancing sector dialogue, promoting consumer awareness, supporting safety and capability building, and maintaining a public record of institutional progress.

4.1 Milestones that carried the message

4.1.1 Sector dialogue with a wider audience

Coverage of national-level conferences in Hyderabad, Pune and Delhi carried PNGRB's sector engagement beyond the participants in the room. Confluence 2026, the Energy Security Conference with Indraprastha Gas Limited (IGL) and the City Gas Distribution (CGD) conference with Maharashtra Natural Gas Limited (MNGL) formed important parts of this communication effort.



Event reports and digital updates made the Board's participation visible to wider stakeholder groups. They also connected individual occasions to PNGRB's continuing engagement with energy security, infrastructure development and the natural gas sector.



4.1.2 International cooperation explained

The exchange of a memorandum of understanding with Germany's DVGW, in the presence of the Hon'ble Prime Minister, was a significant moment in PNGRB's international engagement. Communication around the partnership highlighted its relevance to hydrogen blending and safety standards, giving the announcement substance beyond the ceremonial exchange. It brought attention to the technical cooperation and institutional preparedness involved in responding to emerging developments in the sector.

4.1.3 PNG Drive 2.0: From pipelines to people

PNG Drive 2.0 gave PNGRB's public communication a clear consumer focus. The national campaign brought government, industry and consumers together around a practical objective: translating the expansion of CGD infrastructure into greater adoption of piped natural gas (PNG).

PR and social media helped carry this objective into public view. Campaign updates, media engagement and stories of transition presented PNG in terms that households could relate to: convenience, reliable supply and safe use. Data-backed communication made campaign progress more tangible, while stakeholder participation sustained attention beyond individual announcements.

For the IT/PR team, the successful campaign demonstrated how sustained communication can complement a sector-wide initiative. Rather than presenting infrastructure only as networks and assets, the outreach connected it to everyday use. PNG Drive 2.0 became a prominent platform for consumer information as well as institutional visibility, bringing the story of India's expanding gas network closer to the people it serves.



4.2 Showing the work behind the institution

4.2.1 Safety, governance and field engagement

Coverage of fire safety drills, workshops on prevention of sexual harassment (POSH), insider trading training and visits to CGD stations showed dimensions of the Board's work that are less visible than major conferences. These activities brought attention to emergency preparedness, responsible workplace conduct, compliance awareness and engagement with operating facilities. Documenting them alongside sector milestones presented safety and governance as continuing institutional priorities rather than occasional messages.



4.2.2 Capability building and digital readiness

Training in Generative AI, Data Analytics, e-Office, the Knowledge Management System (KMS) and AI in administration formed another strand of the year's coverage. Communication around these programmes recorded the IT Division's efforts to equip personnel for a more digitally enabled workplace. Their inclusion also showed the organisational work behind digital transformation: helping people develop the skills to use new systems and approaches effectively.

4.2.3 Institutional values in action

The 19th Foundation Day, Constitution Day, 80th Independence Day, International Women's Day and International Yoga Day provided opportunities to communicate PNGRB's institutional identity and shared values.



Coverage of these occasions complemented the Board's technical and regulatory work with an account of its life as a public institution.

Swachhata Pakhwada, tree-planting activities on World Environment Day and cleanliness drives added a further dimension. Their documentation brought environmental responsibility and employee participation into the wider account of PNGRB's activities.



4.2.4 A more consistent public presence

The year's communication effort was supported by a repeatable process: documenting an event, preparing its public account and distributing relevant information through official channels. Photographs and write-ups provided the record; social media extended its visibility; periodic bulletins brought related activities together for later reference.



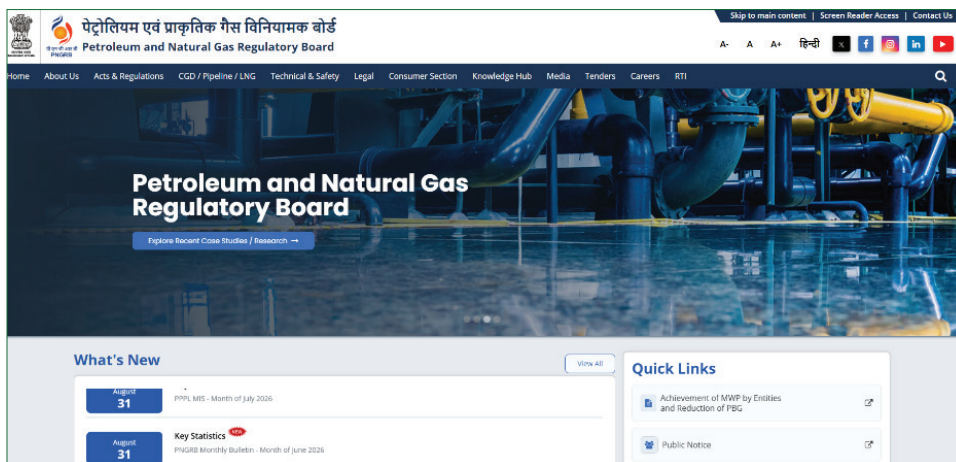
This combination gave individual updates a longer useful life. A conference report could remain available after the event, campaign data could be revisited, and institutional achievements could be understood as part of a continuing programme of work.

Regional outreach was an important part of this approach. Coverage from Chennai, Pune, Hyderabad and CGD sites ensured that PNGRB's communication reflected activity beyond Delhi and the National Capital Region. It placed the Board's work closer to the locations where infrastructure is developed, services are delivered and stakeholders engage with the regulator.

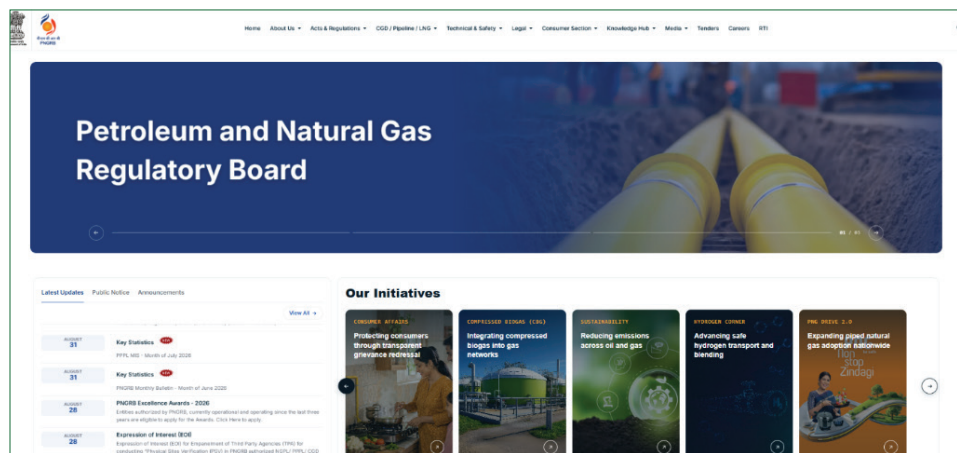
Direct digital communication also complemented traditional media coverage, allowing PNGRB to present its information without relying solely on external reporting. A consistent institutional voice across these channels helped give diverse activities a recognisable public identity.

4.3 The website: A lasting public reference

Social media brings an update to attention; the official website gives it a lasting reference point. Within PNGRB's public communication, the website is the primary source for the Board's published regulatory information and institutional record.



Regulations, orders, notifications, tariff decisions and authorisation details enable stakeholders to consult official material directly. Press releases, public notices, consultation papers, tenders and event updates place the Board's ongoing work in the public domain. Annual reports and RTI-related information support transparency and access to institutional records.



The website also serves a practical consumer need. Information on authorised CGD entities, PNG and compressed natural gas (CNG) coverage, and grievance redressal mechanisms helps people identify the relevant service provider and the channels available to them. For industry and the media, the same platform provides a common reference for information about PNGRB's decisions and activities.

Together, the website and social media fulfil complementary roles. Social channels make information more discoverable and accessible at a glance; the website provides the context, detail and official documents required for closer understanding. Connecting public-facing communication to this authoritative record gives the Board's outreach both immediacy and continuity.

4.3.1 Visibility with public purpose

The year's achievements in PR and social media are best understood through what they made possible: a more consistent account of PNGRB's work, clearer communication on consumer-facing initiatives, and a documented record of sector engagement and institutional development.



Regular communication created more opportunities for government, industry, consumers and citizens to encounter the Board's work through official sources. It also supported institutional memory, preserving material for future reporting and reference instead of allowing important activity to disappear with the event.

Chapter 5: Capability Building and AI for Workplace Productivity

The digital transformation of an institution is ultimately a transformation of its people. Technology can provide sophisticated platforms, powerful analytical tools and intelligent systems, but their true value is realised only when employees possess the capability and confidence to use them effectively. At the Petroleum and Natural Gas Regulatory Board (PNGRB), the IT Division has therefore approached digital transformation not merely as a technology deployment exercise, but as a sustained programme of capability building.



Over the past year, this approach has focused on strengthening digital competencies across the organisation, introducing employees to emerging technologies, improving proficiency in core workplace applications and creating an enabling environment for the responsible adoption of Artificial Intelligence. The objective has been clear: to equip PNGRB's workforce to work more efficiently, analyse information more effectively and devote greater attention to the substantive regulatory challenges before the organisation.

5.1 Introducing AI as a Workplace Capability

The emergence of Generative AI has created a fundamental shift in the way knowledge workers can approach research, drafting, analysis, communication and problem-solving. Recognising this opportunity, the IT Division has initiated capability building around AI, Generative AI and data analytics tools for regulatory excellence through regular training programs.

The topics of training were relevant for the organizational workflow requirement, considering the learning curve of the employees. Thus, training on 'Prompt Engineering' and 'Generative AI & Data Analytic Tools for Regulatory Excellence' were introduced, which was successfully conducted by industry professionals with practical use-cases and live demonstrations. The emphasis has not been on AI as a replacement for professional expertise. Instead, the

objective is to develop an AI-augmented workforce in which technology assists employees with repetitive and time-intensive tasks while human judgement remains central to regulatory decision-making.



PNGRB employees are being enabled with access to productivity and AI tools for divisions with capabilities suited to their respective requirements. Generative AI can assist with research, ideation, drafting and synthesis; data visualisation platforms can help transform complex datasets into actionable insights; and digital design tools can improve the speed and quality of communication outputs.

The impact of such tools has particularly been meaningful for diverse functions of a regulatory organisation. Division's requiring analytical tasks are using data tools to identify trends and patterns. Administrative functions are streamlining documentation and routine workflows. Communication's team is using AI to develop and adapt content more efficiently. The result is not simply faster execution but the creation of additional capacity within the organisation.

5.2 Driving Digital Adoption Through e-Office

A key focus during the year has been strengthening employees' ability to effectively leverage the digital platforms that drive everyday functioning at PNGB. PNGB's IT Division has supported this transition through focused capability building around e-Office, particularly the e-File and Knowledge Management System (KMS) modules.

A dedicated e-Office training programme was organised to refresh the skills of existing users, familiarise newly joined employees with the system and enable all users to make effective use of new features and enhancements introduced through the application upgrade.

Special emphasis on KMS has further reinforced the importance of systematically capturing, organising and accessing institutional knowledge, helping reduce information silos and making relevant knowledge more readily available for informed decision-making. In everyday work,

KMS enables employees to create, upload and share documents through a central repository, supporting greater transparency and reducing dependence on scattered records and individual files. Its multilingual support helps regional users access and contribute to information more effectively, while role-based security and access controls ensure that documents remain protected and are available only to authorised users.



The system's enhanced search mechanism, including content-based and OCR-enabled search across text, images and multilingual documents, allows employees to quickly locate relevant information. Filtering and tagging features further support the quick retrieval of documents, saving time in routine tasks such as preparing references, responding to queries and locating earlier decisions or records. Version control maintains the amendment history of documents, enabling users to track changes and rely on the latest approved version. The referencing feature also allows related documents already available in the repository to be attached while creating or uploading new documents, thereby preserving context and improving the quality of institutional records.

Since it is built on open standards, the system has been customised and enhanced in line with PNGRB's evolving requirements.

5.3 Building the Capacity to Regulate Through Data

For a modern regulator, the ability to interpret data is becoming as important as the ability to collect it. The petroleum and natural gas sector generate substantial volumes of operational, infrastructure, financial and market information. Converting this information into meaningful insights can strengthen regulatory oversight and improve the quality and timeliness of decision-making.

Combined with in-house developed systems such as PNGRB's e-Portal applications and the National Hydrocarbon Infrastructure Monitoring System (NHIMS), these capabilities create the foundations for increasingly data-driven regulation. PNGRB's digital ecosystem already

provides industry-facing systems and information relating to areas including CGD, natural gas pipelines, petroleum product pipelines and regulatory processes. Strengthening the ability of employees to interpret and utilise this information can consequently improve both internal decision-making and the quality of regulatory engagement with sector entities.

For the oil and gas industry, this translates into more streamlined regulatory interactions, improved transparency and increasingly data-driven oversight. For consumers, the impact is reflected in the effectiveness of the systems through which PNGRB fulfils its mandate of consumer protection, fair competition and adequate supply.

5.4 The PNGRB Website: A Knowledge Repository for Oil and Gas Industry

Over the years, the PNGRB website has grown into an important reference point for India's petroleum and natural gas sector.

The website preserves the Board's institutional work through annual reports, publications, research papers, case studies, speeches and records of key initiatives. Its Data Bank provides access to sector statistics, monthly reports, infrastructure details and maps, helping users follow developments across City Gas Distribution, natural gas pipelines and petroleum product pipelines. Consumer-focused information, including FAQs, PNG and CNG prices, emergency contact details and grievance-related services, makes the platform useful to the wider public as well.

By placing current information and past records in one organised digital space, the website reduces the time spent searching across different sources and supports better-informed day-to-day work.

5.5 Looking Ahead: Towards an AI-Augmented Workforce

PNGRB's IT Division's capability-building initiatives therefore form part of a larger institutional objective. By strengthening the digital competence of its workforce, PNGRB is strengthening its capacity to understand a complex sector, respond to its evolving requirements and regulate it with greater precision.

The objective is a workforce that is digitally confident, analytically capable and AI-enabled, supported by technology that allows expertise to translate into greater productivity and stronger regulatory outcomes.

Glossary

This glossary explains key terms, technical concepts, systems, portals and abbreviations referenced throughout this publication, to support readers in understanding PNGRB's IT Division initiatives, digital platforms and cybersecurity programmes.

A

API (Application Programming Interface) — A set of protocols that allows different software systems to communicate and exchange data, used, for example, to route MyPNG applications securely to CGD systems and to feed real-time data into NHIMS.

Attack Surface — The sum of points in an IT system where an unauthorised user could attempt to gain access, reduced at PNGRB through server-level vulnerability remediation and configuration review.

C

Channel Partner / DMA (Direct Marketing Agent) — An authorised third party that assists citizens with onboarding onto the MyPNG platform and manages the reassignment of rejected applications.

CLDP (Common LPG Database Platform) — A shared database of existing LPG consumers that is integrated with MyPNG to enable auto-retrieval of customer information and reduce repetitive data entry during LPG-to-PNG migration.

Cybersecurity Posture — An organisation's overall readiness and capability to detect, prevent and respond to cyber threats, strengthened at PNGRB through EDR, firewalls and security audits.

D

Disaster Recovery — A set of procedures and technologies that allow an IT system to be restored following a failure, forming part of the resilient cloud architecture on which NHIMS is built.

E

e-Office — The Government of India's paperless file-management system, migrated by PNGRB to the cloud to enable round-the-clock, location-independent access to official records.

e-Portal — PNGRB's unified digital gateway that aggregates multiple regulatory web applications to automate compliance and enable paperless submission and reporting of operational data.

EDR (Endpoint Detection and Response) — A cybersecurity solution that continuously monitors endpoint devices to identify, detect and respond to malware, ransomware and other

security threats.

ERDMP (Emergency Response and Disaster Management Plan) — A safety framework that oil and gas operators must comply with, verified as part of the TPIA empanelment process.

G

GCV (Gross Calorific Value) — A measure of the total energy content of a fuel, tracked as a gas-quality parameter on the NHIMS Bulletin Board.

Geo-Tagging — The process of attaching geographic coordinates to data or images, used through the NHIMS mobile application for field-level inspection and mapping of pipeline infrastructure.

GIS (Geographic Information Systems) — Technology used to capture, store, analyse and display spatial data, forming the core mapping capability of the NHIMS platform.

GIS Serviceability — A GIS-based check that confirms whether a given address or location falls within an area served by PNG network infrastructure.

I

IMS (Integrity Management System) — A structured safety framework used to assess and maintain the operational integrity of oil and gas infrastructure, verified during TPIA empanelment.

M

Meghraj 2.0 — The Government of India's National Government Cloud platform on which NHIMS is hosted.

MyPNG Unified Portal — A single, standardised national platform that allows citizens to apply for a new PNG connection and supports their migration from LPG to PNG, regardless of which CGD entity serves their area.

N

NHIMS (National Hydrocarbon Infrastructure Monitoring System) — A GIS-enabled, data-first platform hosted on the National Government Cloud that consolidates India's petroleum and natural gas infrastructure data for regulatory monitoring and analysis.

Next-Generation Firewall (NGFW) — An advanced firewall solution offering deeper traffic inspection and threat prevention than traditional firewalls, deployed by PNGRB to strengthen its cybersecurity posture.

P

POL (Petroleum, Oil and Lubricants) — A category of fuel and lubricant products whose storage depots are mapped as part of NHIMS's infrastructure coverage.

PPPL (Petroleum and Petroleum Product Pipelines) — The pipeline network used to transport petroleum and petroleum products, monitored through the Pipeline Monitoring Portal.

Q

QCBS (Quality and Cost Based Selection) — A standardised evaluation method combining technical quality and cost, used on the TPIA and TPCA Portal to ensure fair and independent selection of inspection agencies.

R

Remote Sensing — The collection of information about the earth's surface using satellite or aerial imagery, used within NHIMS to support infrastructure mapping.

REST Web Services — A standard method by which software systems exchange data over the internet, used to integrate NHIMS with the systems of major oil and gas entities.

RO (Retail Outlet) — A fuel retail station, mapped as part of the infrastructure network covered by NHIMS.

S

SCADA (Supervisory Control and Data Acquisition) — A system used for real-time monitoring and control of industrial processes, cited as one of the technologies integrated within modern e-Governance platforms.

SLA (Service Level Agreement) — A defined standard for service delivery timelines and quality, monitored on the MyPNG platform through role-based dashboards.

Stakeholder — Any individual, organisation or entity with an interest in or affected by PNGRB's regulatory activities, including government bodies, industry players and consumers.

T

T4S (Technical Standards and Specifications including Safety Standards) — A PNGRB safety framework against which oil and gas operations are vetted during the TPIA empanelment process.

TPCA (Third Party Certification Agency) — An agency empanelled through the TPIA and TPCA Portal to certify compliance of oil and gas facilities with applicable safety standards.

TPIA (Third Party Inspection Agency) — An independent agency engaged to inspect and vet oil and gas facilities against PNGRB's safety frameworks prior to empanelment.

U

Unified Portal — A planned centralised digital platform intended to integrate multiple PNGRB applications to improve data integrity, access and usability.

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