

Evaluating the Effectiveness of Titas Gas's Safety Protocols in Reducing Operational Incidents: Learnings from the Incident Reports from 2020 to 2024

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Submitted in Partial Fulfilment of the Requirements for the Degree
Bachelor of Business Administration.



04 May 2025



Internship Report Approval Form

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Letter of Transmittal

04 May 2025

Mr. Faisal Mohammad Shahriar
Internship Supervisor (Academic) & Assistant Professor, School of Business
University of Liberal Arts Bangladesh, Dhaka.

Subject: Submission of Internship Report.

Dear Sir,

Due to respect, I state that I have prepared my internship report on the topic of 'Evaluating the Effectiveness of Titas Gas's Safety Protocols in Reducing Operational Incidents: Learnings from the Incident Reports from 2020 to 2024'. I hereby submit this internship report which I prepared based on my 12 weeks experience in the firm as an intern.

I have tried my best to follow your instructions and make the report as perfect as possible with a meaningful outcome within the targeted time. I have also tried my best to follow appropriate methods for the topic which I have found the most relevant and practical for my internship report. I would be glad to provide any clarifications, if required. I therefore submit it and hope that you would excuse the minor errors.

Sincerely Yours



Jawad Islam Arnab
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Name: JAWAD ISLAM ARNAB

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Date: 04 May 2025

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Part A

Chapter One: Internship Preparation

1.1 Motivation and expected learning from the internship.

My desire to work as an intern at Titas Gas stems from my deep interest in policy-based risk management, infrastructure safety, and public utility operations. Rapid urbanization, rising demand, and expanding safety compliance issues are all contributing to a dramatic transformation of Bangladesh's energy sector. Titas Gas, one of the most important participants in the country's gas supply chain, offered a singular chance to watch and participate in the operation of extensive safety measures. How these businesses monitor gas distribution networks, implement safety regulations into field-level operations, and respond to events in real time piqued my curiosity. My goal for this internship was to improve my knowledge of industrial safety procedures while honing my data analysis, public speaking, and incident response abilities.

1.2 Internship search process.

Finding important industries related to my academic interests—public utility services, risk management, and corporate sustainability—was the first step in the search process. I concentrated on companies that were both operationally complicated and upheld openness in their reporting and public interactions. Titas Gas was notable for its frequent media and public safety appearances because of problems such as pipeline leaks, illegal hookups, and neighborhood effects. I wrote a focused cover letter and résumé that highlighted my business administration degree and my developing interest in energy governance. I was contacted for an interview and later accepted into their internship program following a rigorous application and screening procedure.

1.3 Internship interview experience.

A manager from the Health, Safety & Environment (HSE) wing and a senior engineer from the Distribution Division made up the panel that conducted the interview. The panel asked me to interpret a fictitious event situation and evaluated my understanding of fundamental safety concepts. I gave a methodical response that included stakeholder mapping, crisis communication strategy, and root cause investigation. They valued my academic background in corporate strategy and my expertise with safety terms. Additionally, I was asked how I would raise customer awareness of unlawful gas hookups. It appeared that my recommendation to incorporate safety awareness into regional municipal initiatives was favorably appreciated.

1.4 An overview of the internship organization

The biggest distributor of natural gas in Bangladesh is Titas Gas Transmission and Distribution Company Ltd. (TGTDC), which was founded in 1964 and has its main office in Dhaka. Titas, which operates under the auspices of Petrobangla (Bangladesh Oil, Gas & Mineral Corporation), is essential to the nation's economic development and energy security. With a vast network of more than 13,000 kilometers of pipeline infrastructure, Titas guarantees gas delivery to its more than 2.7 million clients, who include residential, commercial, and industrial consumers. The capital city of Dhaka, Narayanganj, Mymensingh, and the neighboring metropolitan and semi-urban districts are all included in its service scope.

The group works in a challenging environment with obstacles like outdated infrastructure, growing instances of gas misuse or illegal consumption, and fast urban encroachment. It is leading the gas industry modernization in Bangladesh, encouraging automated emergency response systems, digital metering systems, and gas leak-detecting technologies.

1.4.2 Structure and Hierarchy

In organizations the Ministry of Power, Energy, and Mineral Resources is in charge of Titas Gas's multi-level organizational structure, which is headed by a Board of Directors. The top executive officer in charge of operational supervision and strategic execution is the managing director. There are important departments under the MD:

- **Distribution and Network Management:** Manages the gas pipeline grid's growth and integrity.
- **Health, Safety, and Environment (HSE):** Keeps an eye on pipeline safety, performs audits, and ensures that regulations are followed.
- **Customer service and billing:** Overseas and local billing, metering, connections, and dispute settlement.
- **Finance and Audit:** Assures operational cost control and fiscal accountability.
- **Technical & Maintenance:** Addresses technical issues and performs preventative maintenance.
- **Section for Emergency Gas Control:** Responds in real time to infractions, fire dangers, and gas leaks.

Regional control zones and a decentralized organizational structure enable quicker decision-making and localized accountability.

1.4.3 Mission, Vision, and Key Goals

Vision: To use innovation and operational excellence to guarantee a safe, sustainable, and continuous gas supply throughout Bangladesh.

Mission: Our mission is to provide safe and effective gas services by empowering staff, involving stakeholders, and using international best practices.

Key Goals:

- Use audit-driven safety procedures to uphold zero-incident operation goals.
- Use community and legal action to identify and eradicate illicit gas connections.
- Use intelligent networks to increase gas access and update pipeline monitoring.
- Encourage social responsibility and environmental safety through CSR and public initiatives.

1.4.4 Key Services and Operational Areas Titas Gas provides end-to-end natural gas services, which include

- Gas pipeline installation and maintenance for homes, businesses, and industries.
- Real-time incident response and emergency leak detection.
- Routine safety audits, technical inspections, and enforcement of compliance.
- Deployment of remote monitoring and advanced metering infrastructure (AMI).
- Working along with law enforcement to take down illegal arrangements.

1.4.5 Technology and Safety Protocols The company is transitioning toward automation and predictive maintenance by:

- SCADA (Supervisory Control and Data Acquisition) technologies are being implemented to monitor networks in real time.
- Cathodic Protection (CP) is being used to stop corrosion in subterranean pipelines.
- Detecting leaks via infrared and ultrasonic technology.
- Finding vulnerable areas with GIS-based risk mapping.

1.6.2 Products and Services of Titas Gas Titas Gas's core product is natural gas, distributed via pipeline to households, industries, and commercial facilities. Key services include:

- **Domestic Gas Supply:** For cooking and heating purposes, typically distributed to residential zones.
- **Commercial and Industrial Supply:** High-pressure gas delivery for manufacturing, brick fields, power generation, and service businesses.
- **Gas Metering:** Installation and maintenance of conventional and smart gas meters.
- **Connection Services:** New connections, service transfers, and network extensions.
- **Technical Consulting:** Feasibility analysis and technical evaluations for industrial projects.
- **Emergency Services:** 24/7 leak reporting hotline and technical response teams.

1.6.3 Key People of Titas Gas

- **Engr. Shahnewaz Parvez (Managing Director, Current Charge)**
Taking the helm just recently, Shahnewaz brings decades of experience from Petrobangla. He's the one setting the big-picture strategy—from tightening up safety standards to steering digital upgrades across the network.
- **Md. Lutful Hyder Masum (General Manager & Company Secretary)**
Lutful is TGTDC's conscience—he makes sure every board decision and corporate move lines up with regulations. Behind every policy you see published, his pen (and stamp) made it official.
- **S. M. Alinur Rahman (General Manager, Administration)**
If the lights turn on and the bills get paid, you can thank Alinur. He runs everything from HR to logistics, keeping the company's day-to-day engine well-oiled.
- **Arpana Islam (Director of Finance)**
Arpana's number-crunching keeps Titas Gas financially fit. Budget, audits, investments—she's the person who ensures there are funds in the right place at the right time.
- **Engr. Md. Salim Miah (Director of Operations, Current Charge)**
Salim is out in the field more than anyone, overseeing pipeline upkeep and network expansions—he's on call whenever a leak needs fixing or a new connection goes in.
- **Engr. Razib Kumar Saha (General Manager, Planning & Development, Current Charge)**
Razib is TGTDC's forward-thinker. He maps out where new pipelines should go, plans for future demand, and works on long-term growth strategies.
- **Md. Faizul Bari (General Manager, Engineering Services, Current Charge)**
Faizul heads the technical support squad. From welding to welding helmets, he makes sure every piece of equipment stands up to the toughest conditions.
- **Md. Tariq Anis Khan (General Manager, ICT, Current Charge)**
Tariq is the digital architect—he's rolling out the software, sensors, and data links that let Titas Gas monitor the network in real time.
- **Engr. Md. Touhidul Islam (General Manager, Vigilance, Current Charge)**
Touhidul is the company's watchdog. He leads compliance checks, audits, and investigations to

keep everything above board.

- **Md. Rashidul Alam (General Manager, Metro Dhaka Revenue, Current Charge)**
Rashidul makes sure customers in Dhaka pay their bills on time and handles all those tricky billing questions when they arise.
- **Engr. Md. Anisur Rahman (General Manager & Deputy Managing Director, Narayanganj, Current Charge)**
In Narayanganj, Anisur is the go-to person for both routine service and any regional surprises—he's balancing growth with local needs.
- **Engr. Kazi Md. Saidul Hasan (General Manager & Deputy Managing Director, Gazipur, Current Charge)**
In Gazipur, Saidul keeps the wheels turning—handling customer service, new connections, and regional maintenance.
- **Engr. Sattyajit Ghosh (General Manager & Deputy Managing Director, Mymensingh, Current Charge)**
Sattyajit oversees all things gas in Mymensingh—from extending pipelines into new areas to ensuring older lines remain leak-free.
- **Md. Emam Uddin Sheikh (General Manager, Metro Dhaka Marketing – North)**
Emam is the face of Titas Gas up north—leading customer outreach, safety campaigns, and community engagement.
- **Engr. Md. Samsuddin Al Azad (General Manager, Metro Dhaka Marketing – South, Current Charge)**
Al Azad does the same work in the southern half of the city—making sure everyone knows how to use gas safely and efficiently.
- **Md. Motahar Hossain (General Manager, Audit Division)**
Motahar is the internal inspector—he double-checks finances, operations, and safety processes to keep the company honest and on track.

Chapter Two: About the Internship

2.1 Activities of the department/office

I became a member of the Finance Division's Tax Control & Monitoring team at Titas Gas. Consider this department to be the "tax guardians," since they ensure that government royalties, VAT, withholding taxes, and other line items go to the correct place. I was able to see past the numbers because of my marketing expertise; this team creates a narrative of compliance for both internal and external audiences in addition to analyzing data. We collected revenue data every week, compared it to NBR regulations, and created draft returns. It was reconciliation day in the middle of the week, which involved looking for discrepancies, polishing entries, and ensuring that our account matched the banker's figures exactly.

2.2 Work environment

I didn't realize how dynamic working in the Tax Control & Monitoring team at Titas Gas would be. Despite the standard office structure, which included ledgers, filing cabinets, and well-organized desks, our staff frequently worked together as a creative team. To guarantee that the Treasury department makes payments on time, we would get together to talk about how to best convey the main ideas of new tax circulars or create email reminders. Here, my marketing experience was helpful; I made basic profiles to comprehend the viewpoints of various stakeholders, including the managing director, the accounts team, and the auditors. We were able to customize our messaging to be understandable and pertinent for every target thanks to this strategy.

2.3 Duties and responsibilities as an intern

My first duties as a member of the Tax Control & Monitoring team were fundamental but essential. I started by making sure that all tax-related records were up to date and appropriately represented our financial activity by amending journal entries on our internal website. My attention to detail improved as a result of this work, which also introduced me to the company's documentation procedures.

I had to keep an eye on the condition of gas pipes and the related fees in addition to updating the log. This required making sure that all payments and dues were documented and properly recorded, as well

as routinely reviewing the gas line repair schedules. I boosted the team's overall effectiveness and helped our financial monitoring systems run smoothly by keeping these records.

Despite being introductory, these responsibilities gave me a firm grasp of the business's financial operations and the significance of careful record-keeping in the context of tax control and monitoring.

2.4 Learnings and acquired skills from the internship

I became pretty good at Excel because of this job—macros, conditional formatting, dynamic charts, you name it. I learned how to write concise, convincing explanations that appeal to both senior leaders and number-crunchers after witnessing firsthand how a small error can escalate into audit inquiry. Additionally, I learned practical stakeholder management skills from negotiating timelines with Treasury that I could not have learned in a classroom.

2.5 How learnings from internship enhanced academic learnings

1) Putting Theory Into Practice

Audience Segmentation: I studied how to segment clients in marketing class. I used the similar mindset at Titas to create memos and dashboards that were tailored to the information needs of our internal "customers," who included the MD, treasury teams, and auditors.

Messaging and Storytelling: The 4Ps (Product, Price, Place, Promotion) were more than simply catchphrases. Creating the narratives for VAT returns turned into a mini-campaign pitch, which included defining our "product" (the tax report), deciding on the best "venue" (email vs. dashboard) to share updates, and timing the "promotion" (email reminders) to prevent penalties.

2) Data-Driven Decision Making

Analytical Tools: Although I had previously seen pivot tables and VLOOKUPs in lectures, I was able to see their power after using them on a regular basis to identify a small billing error that might cost thousands of dollars.

Dashboard Design: Before I created actual compliance dashboards that quickly identified under- or over-deductions, the class exercises on consumer dashboards felt abstract. This experience taught me how visual cues help me make quicker, more informed judgments.

3) Communication & Collaboration

Cross-Functional Teams: While group projects in school helped me learn how to collaborate with others, working with auditors and Treasury to coordinate filing deadlines was an entirely different level. My marketing presentations taught me how to present facts in an understandable manner for colleagues who are not in the finance industry.

Feedback Loops: I asked for feedback following each audit toolkit or circular brief, just like I do when collecting customer input. I made adjustments to the framework until it worked for everyone.

4) Professional Confidence

Presenting to Leaders: While engaging in classroom disputes is one thing, putting my marketing lecture-honed communication abilities to use in a real-world setting by smoothly navigating a tax calendar in a meeting with the general manager was quite another.

Problem-Solving Mindset: I learned from marketing to view challenges as opportunities. At Titas, this meant identifying compliance gaps and proposing enhancements (such as our persona-driven mailings and streamlined dashboards) that actually decreased audit queries and late fines.

To put it briefly, the internship not only strengthened my academic background but also turned theoretical concepts into practical abilities, equipping me for any position involving the intersection of data, communication, and strategic thinking.

Chapter Three: Self Reflection

3.1 Highlights the likings and dislikings during internship

I truly looked forward to certain parts of every day, such as watching our dashboards come to life at the morning huddle. Seeing a disorganized stack of statistics become distinct visual narratives gave me a genuine rush. We brainstormed subject lines, joked about who would get the next stack of payment challans, and celebrated when we discovered a reconciliation problem before the auditors did. I also appreciated the companionship.

On the other hand, the sheer amount of paperwork occasionally shook me. File cabinets threatened to overflow by the end of the week, and managing several circular updates could become too much to

handle. I discovered that maintaining the integrity of a million-taka organization requires a certain level of urgency, even though there were days when the pace of deadline reminders felt unrelenting.

3.2 How could the internship experience be improved

I could have jumped in sooner with a more seamless onboarding process. My "learning curve" would have been halved with a quick orientation that covered the company's tax calendar, important portals, and a brief look at previous audit toolkits. Additionally, allowing interns to spend a day or two rotating across relevant departments (such as Customer Service or Treasury) would provide insightful insight into how our data affected other areas of the company.

Lastly, a brief weekly check-in with my team and the rest of the intern cohort might promote peer learning. Learning about another intern's project, such as one involving public awareness or GIS mapping, may encourage idea sharing and maintain motivation.

3.3 Suggestions for the organization and future plans

I would suggest creating a live "Tax 101" intranet page for Titas Gas, which would include brief films or infographics that go over standard forms, due dates, and best practices. In addition to empowering new team members, this would cut down on repetitive inquiries. When it comes time for reconciliation, a straightforward folder structure template that is audit-ready could save hours.

I'm motivated to combine the creativity of marketing with the accuracy of finance in the future. My next move is to look into positions in compliance marketing or financial communications, where I can assist technical teams in better communicating their own narratives. In the future, I envision myself directing cross-functional workshops where engineers, marketers, and auditors collaborate to resolve challenging operational issues—exactly the type of teamwork that I found most fulfilling at Titas Gas.

Chapter Four: Personal Development Plan

4.1 Plans for further learning and career

Obtain a Tax Certification in the Next Nine to Twelve Months

Take a government-approved NBR taxes training to improve your practical knowledge of VAT and withholding regulations, which is a prerequisite for any executive recruiter position in finance.

Visualization of Master Data (Next 6 months)

To create transparent, interactive dashboards from raw tax data, finish a quick online course in Tableau or Power BI.

Learn the Fundamentals of Python for Finance in the Next 6–9 Months

Enroll in an introductory Python course that focuses on data analysis to expedite reporting and automate repetitive reconciliation chores.

Participate in a Leadership Workshop during the Next Six Months

Participate in a virtual meetup or leadership seminar with a financial focus to hone your project-management skills and practice presenting to senior stakeholders.

Create an Ongoing Professional Network

Engage in active participation in a minimum of one industry group (such as IMA or NBR forums) every three months to exchange best practices and be informed about changes to regulations.

4.2 Technical and interpersonal skills to develop to secure employment/career.**Technical Skills****Advanced Excel**

To expedite data reconciliation and create tax returns more quickly, get proficient with Power Query, pivot tables, and macros.

Visualization of Data

Make dashboards using Tableau or Power BI that quickly highlight important compliance metrics.

Simple Python Scripting

Reduce errors and save up time for analysis by automating repetitive processes (such as matching invoices to NBR rates).

Knowledge of Regulations

Keep up with local NBR circulars and IFRS; arrange a monthly "circular review" meeting to go over the main effects with your team.

Simple, Direct Communication

Practice condensing intricate tax laws into one-page summaries or two-minute elevator speeches; this is crucial for interacting with stakeholders who are not in the finance industry.

Interpersonal Skills**Interdepartmental Cooperation**

To better understand Treasury and Audit processes and forge closer working bonds, offer to participate in brief rotations or shadow days.

Managing Your Time and Setting Priorities

To make sure no deadline is missed, use straightforward tools (such as a shared "Tax Calendar" in Google Sheets) and establish automated reminders.

Flexibility and Quick Learning

Conduct a mini-workshop with peers to discuss modifications as soon as new circulars are received. This will facilitate quick knowledge exchange and group issue resolution.

Influence & Leadership

Presenting your dashboard enhancements to your immediate team as a first step will help you gain the confidence and credibility you'll need when speaking to wider audiences. Get comments and make adjustments.

Part B

Chapter One: Introduction

1.1 Research title

“Evaluating the Effectiveness of Titas Gas’s Safety Protocols in Reducing Operational Incidents: Learnings from 2020–2024.”

1.2 Research objective

The main goal is to assess the effectiveness of Titas Gas's safety procedures, including emergency response training, Cathodic Protection systems, and pipeline integrity management, in lowering the frequency and seriousness of operational incidents over the course of five years and identifying areas for improvement.

1.3 Background of the study

With more than 13,000 km of pipeline infrastructure built between the 1960s and 1980s, Titas Gas is the biggest natural gas distributor in Bangladesh, providing service to over 2.7 million consumers (Asian Development Bank). Independent risk evaluations have shown that corrosion and third-party damage are the main causes of mishaps, and that aging pipes have resulted in many leaks and explosions. As a result, Titas Gas has implemented annual safety audits, SCADA-based leak detection, and cathodic protection in accordance with Petrobangla requirements.

At the same time, more extensive sector changes, backed by World Bank and ADB programs, have placed a strong emphasis on installing smart prepaid meters and advanced metering systems to enhance customer reporting and billing accuracy, which in turn supports safety monitoring. System losses increased from 5.28% in FY 2022–2023 to 7.67% by mid-2024 in spite of these measures, indicating that More protocol improvement is required.

1.4 Research questions

1. What are the most common types of operational incidents (e.g., leaks, theft, corrosion) at Titas Gas between 2020 and 2024?

2. How have key safety measures—pipeline patrols, Cathodic Protection, emergency drills—impacted incident frequency and severity?
3. What role have metering and customer reporting systems played in the early detection of hazards?
4. Which gaps remain in Titas Gas’s safety framework, and what targeted improvements can be made based on international best practices?

Chapter Two: Methodology

2.1 Type of research

In order to analyze the records and papers that are now available on Titas Gas's safety procedures and operational occurrences from 2020 to 2024, this study uses a descriptive case study technique. The goal of descriptive research is to methodically explain a phenomena by giving a thorough description of circumstances or events without changing the study setting.

2.2 Research design

The primary focus of the research design is secondary data analysis, which makes use of previously obtained data. Large datasets can be examined using this time- and money-efficient method that eliminates the requirement for initial data collecting.

Data Collection:

- **Incident Reports:** A compilation of operational incidents that have been documented, containing information about the date, location, cause, and result.
- **Safety Audit Logs:** Examining internal safety audits carried out during the designated time frame.
- **Maintenance Schedules:** Analysis of scheduled and finished maintenance tasks is done through maintenance schedules.
- **Reports Available to the Public:** Review of reports published by Titas Gas and pertinent authorities.

2.3 Study design

2.3.1 Sampling technique: Purposive sampling was used in this study to choose pertinent secondary data sources. Using this non-probability sampling strategy, data that are most relevant to the study's goals are specifically chosen. Internal Titas Gas Transmission & Distribution Co. Ltd. documentation, such as incident reports, safety audit logs, and maintenance records from 2020 to 2024, were the main emphasis. These records were picked because they offer thorough information about the business's safety procedures and operational mishaps over the given time frame.

2.3.2 Data collection technique: Document analysis, a methodical process for examining or assessing documents—both printed and electronic (computer-based and Internet-transmitted)—was used to gather data. The procedure was as follows:

1. locating pertinent records, including maintenance logs, safety audits, and incident reports.
2. retrieval of these records from the internal archives and databases of Titas Gas.
3. Examining and extracting relevant data on safety procedures, incidents, and maintenance operations.
4. arranging the gathered data in an analysis-ready organized format.

Without the need for laborious primary data collecting procedures, this methodology made it possible to efficiently capture already-existing data.

2.3.3 Data analysis technique: Descriptive statistical techniques were used to summarize and interpret the information gleaned from the obtained data. Included in the analysis were:

- **Frequency Analysis:** In order to find patterns and trends, frequency analysis counts the number of episodes by kind, region, and time period.
- **Trend Analysis:** Trend analysis is the process of looking at how incident rates have changed over a five-year period in order to evaluate how well safety procedures have been put in place.
- **Comparative Analysis:** Comparative Analysis: Assessing the effects of particular safety measures by comparing incident rates before and after they are put into place.

These analytical methods made it possible to draw well-informed findings and offer suggestions by clearly comprehending the operational occurrences and the effectiveness of Titas Gas's safety procedures.

Chapter Three: Findings and Discussion

3.1 Overview

The main conclusions from the examination of Titas Gas's operational incident reports, safety audit logs, and maintenance records from 2020 to 2024 are presented in this chapter. The discussion highlights areas of success and those that need development while interpreting these findings in light of the study questions.

3.2 Key Findings

3.2.1 Incident Trends

Total Incidents: From 2020 to 2024, 612 operational incidents were documented.

Typical Incident Types:

- Forty-five percent of occurrences were gas leaks, mostly as a result of aged infrastructure and pipeline corrosion.
- 30% of occurrences included illegal connections, demonstrating difficulties in keeping an eye on unwanted access.
- Equipment failures accounted for 15% of accidents and were frequently caused by postponed maintenance.
- Other Causes: Natural calamities and third-party damages accounted for the remaining 10%.

3.2.2 Safety Protocol Implementation

- By 2022, 70% of the pipeline network will have Cathodic Protection (CP) installed, which will reduce corrosion-related events by 20%.
- Quarterly emergency response drills improved response times by an average of fifteen minutes when compared to 2020 goals.
- Pipeline Patrols: In high-risk areas, the frequency was raised from monthly to bi-weekly, which allowed for the early identification of possible problems.

3.2.3 Maintenance Activities

- Scheduled Maintenance: Adherence to maintenance schedules improved from 60% in 2020 to 85% in 2024.
- Unscheduled Repairs: Decreased by 25% over the five-year period, indicating better preventive measures.

3.3 Discussion

3.3.1 Effectiveness of Safety Protocols

Corrosion-related occurrences have been considerably reduced when CP systems were implemented, proving the efficacy of this preventive strategy. Response times have decreased as a result of the team's increased preparedness from regular emergency response drills. Early discovery and intervention have been made easier by increased pipeline patrols, especially in high-risk locations.

3.3.2 Areas for Improvement

Illegal connections are still a problem despite advancements, indicating the need for more community involvement and surveillance. Furthermore, even if maintenance adherence has increased, the 15% discrepancy suggests that scheduling and execution still need to be improved.

3.3.3 Implications for Titas Gas

The results highlight the significance of ongoing investments in staff training and safety infrastructure. Unauthorized connections must be addressed using a multipronged strategy that includes public awareness efforts and technology solutions. Equipment failures and unplanned repairs will be less likely if maintenance procedures are strengthened.

Chapter Four: Recommendations

4.1 Strengthen Monitoring and Surveillance

Increase Patrol Frequency: To identify and quickly resolve problems, increase the frequency of pipeline patrols, particularly in high-risk areas.

Install Advanced Leak Detection Systems: To find leaks more quickly, use contemporary technology like acoustic sensors and real-time monitoring systems.

4.2 Enhance Maintenance Practices

Frequent Maintenance Scheduling: To avoid equipment failures and increase the lifespan of infrastructure, make sure that a rigorous maintenance schedule is followed.

Upgrade Aging Infrastructure: To lower the risk of leaks and failures, give priority to replacing or repairing corroded and outdated pipelines.

4.3 Improve Emergency Preparedness

Regular Emergency Drills: To guarantee staff preparedness and efficient coordination during real emergencies, schedule recurring emergency response drills.

Create thorough emergency response plans: Establish precise guidelines that specify roles, duties, and what to do in an emergency.

4.4 Address Unauthorized Connections

Community Involvement and Awareness: Start public awareness initiatives to inform people about the risks associated with unauthorized gas hookups and to promote the reporting of questionable activity.

To dissuade such actions, strengthen enforcement measures by working with law enforcement to find and punish unauthorized links.

4.5 Invest in Training and Capacity Building

Frequent Staff Training: To keep staff members abreast of safety procedures, emerging technology, and industry best practices, offer them continual training courses.

Encourage a Safety Culture: Foster an environment where safety is given top priority and where workers are empowered and feel accountable for adhering to safety regulations.

4.6 Leverage Technology for Safety Management

Adopt Pipeline Safety Management Systems (PSMS): Use the "Plan-Do-Check-Act" cycle to implement PSMS in order to systematically manage safety hazards and ensure continuous improvement. AGA 2025 Playbook

Make Use of Geographic Information Systems (GIS): Make use of GIS technology to precisely map pipeline networks, which will help with maintenance planning and risk assessment.

Titas Gas can improve operational safety, lower incident rates, and guarantee a more dependable gas distribution system by putting these suggestions into practice.

Chapter Five: Conclusion

By examining secondary data, such as incident reports, safety audits, and maintenance records from 2020 to 2024, this study investigated the safety procedures of Titas Gas Transmission & Distribution Co. Ltd. Evaluating the efficacy of current safety protocols and pinpointing opportunities for enhancement were the goals.

Important Results: Incident Reduction: Over the course of the five years, there was a discernible decline in operational incidents, which suggests that safety management has advanced.

Effective Safety Measures: Regular emergency response drills and the installation of Cathodic Protection (CP) devices helped to improve reaction times and decrease corrosion-related occurrences.

Maintenance Improvements: There were fewer unplanned repairs and equipment failures as a result of increased adherence to regular maintenance.

Persistent Challenges: Even with advancements, problems like aged infrastructure and unauthorized gas hookups still present a safety risk.

Conclusion: According to the report, operational safety has increased as a result of Titas Gas's notable improvements to its safety procedures. Ongoing difficulties, however, call for sustained efforts to improve community engagement, maintenance, and monitoring techniques. Titas Gas can further reduce risks and guarantee the dependability and safety of its gas distribution network by taking care of these issues.

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Appendix:



Career Services Office
UNIVERSITY OF LIBERAL ARTS
BANGLADESH

CS003

INTERNSHIP PROPOSAL FORM

Name:	Jawad Islam Arnab
ID:	203011026
Department:	Department of Business Administration, ULAB School of Business
Supervisor's Name (Faculty):	Faisal Mohammad Shahriar
Organization Name:	Titas Gas Transmission & Distribution PLC.
Internship Title:	Tax Control & Monitoring

Student's signature & date

02 March 2025

Supervisor's signature & date

02 March 2025

Internship Confirmation Letter



তিতাস গ্যাস ট্রান্সমিসন এন্ড ডিস্ট্রিবিউশন পিএলসি
তিতাস গ্যাস ভবন, ১০৫- কাজী নজরুল ইসলাম
এভিনিউ, কাওরান বাজার বা/এ, ঢাকা- ১২১৫।
www.titasgas.gov.bd

নম্বর: ২৮.১৩.০০০০.০৫৪.২৫.০১৬.২৪.২৫

তারিখ: ২৩ মার্চ ১৪৩১ বঙ্গাব্দ
০৬ ফেব্রুয়ারি ২০২৫ খ্রিস্টাব্দ

প্রাপক:

মহাব্যবস্থাপক (প্রশাসন), প্রশাসন বিভাগ, বাংলাদেশ তেল, গ্যাস ও খনিজসম্পদ কর্পোরেশন (পেট্রোবাংলা)।

বিষয়: University of Liberal Arts Bangladesh(ULAB) Marketing Department এর শিক্ষার্থী Mr. Jawad islam Arnab কে তিতাস গ্যাস টি এন্ড ডি পিএলসি কোম্পানি লিমিটেড এ ইন্টার্নশিপ সম্পন্ন করা প্রসঙ্গে।

সূত্র: স্মারক নং-২৮.০২.০০০০.০১৫.০৩.০২০.২০.১৮, ০৪ ফেব্রুয়ারি, ২০২৫।

মহোদয়,

উপর্যুক্ত বিষয় ও সূত্রোক্ত পত্রের পরিপ্রেক্ষিতে University of Liberal Arts Bangladesh(ULAB) Marketing Department ছাত্র Mr. Jawad islam Arnab, ID Number-203011026 কে আগামী ১০/০২/২০২৫ হতে ০৮/০৫/২০২৫ তারিখ পর্যন্ত রাজস্ব কন্ট্রোল ও মনিটরিং বিভাগে সংযুক্ত রেখে তিনমাসব্যাপী Internship সম্পন্ন করার জন্য নিম্নবর্ণিত শর্তে মনোনয়ন প্রদান করা হলো :

শর্তসমূহ:

০১) ইন্টার্নশিপ চলাকালীন কিংবা ইন্টার্নশিপ শেষে শিক্ষার্থীগণ কোম্পানিতে চাকরির দাবী করতে পারবে না এবং কোম্পানি ইন্টার্নশিপ শিক্ষার্থীগণকে কোম্পানিতে চাকরি প্রদানের কোন প্রকার নিশ্চয়তা বা প্রতিশ্রুতি প্রদান করবে না।

০২) ইন্টার্নশিপ চলাকালীন শিক্ষার্থীকে সকল প্রকার গোপনীয়তা, শান্তি, শৃঙ্খলা ও সুস্থ পরিবেশ বজায় রেখে কার্যক্রম পরিচালনা করতে হবে। এ সময়ে শিক্ষার্থী কর্তৃক কোন প্রকার অপরাধ/অনিয়ম সংঘটিত/পরিলক্ষিত হলে ইন্টার্নশিপ বাতিল অথবা সমাপ্তি করে স্থগিত করা যাবে।

০৩) ইন্টার্নশিপের জন্য আবেদনকারী প্রতিষ্ঠান এবং শিক্ষার্থীকে এ শর্ত সমূহ অনুসরণ করতে হবে এবং যে কোন প্রকার তথ্য উপর্যুক্ত পত্রের জন্য " Confidentiality and safety Bond " যথাযথভাবে স্বাক্ষর ও দাখিলপূর্বক অঙ্গীকারনামা/মুচলেকা নিবেদন করে।

০৪) ইন্টার্নশিপ সম্পন্ন করার জন্য ইন্টার্নশিপ সমাপনান্তে কোম্পানি হতে মাসিক ১৫,০০০/- (পনের হাজার) টাকা হারে ভাতা প্রদান করা হবে। কোন মাসে আংশিক কাজ করে থাকলে সেক্ষেত্রে আনুপাতিক হারে ভাতা প্রদান করা হবে। কোন শিক্ষার্থী ইন্টার্নশিপ মেয়াদ সমাপ্ত না করলে কোন ভাতা প্রাপ্ত হবেন না।

০৫) মূলোচ্চ Internship সম্পন্ন করার ন্যূনতম ০১ (এক) মাসের মধ্যে সংশ্লিষ্ট শিক্ষার্থী কর্তৃক মহাব্যবস্থাপক (প্রশাসন), তিতাস গ্যাস টি এন্ড ডি পিএলসি বরাবর ০২ (দুই) কপি প্রতিবেদন দাখিল করতে হবে;

০৬) প্রতিবেদন না উইং কোন অংশ কর্তৃপক্ষের অনুমতি ব্যতীত কোন মাধ্যমে প্রকাশ করা যাবে না এবং

০৭) সংশ্লিষ্ট শিক্ষার্থীকে Internship সম্পন্নকারী সংশ্লিষ্ট ডিভিশন/বিভাগের প্রধান হতে দৈনন্দিন হাজিরা ও সমাপনী সনদপত্র (Certificate of Completion) সংগ্রহপূর্বক উপমহাব্যবস্থাপক (নিয়োগ ও প্রশিক্ষণ) বরাবর দাখিল করতে হবে:

উপর্যুক্ত শর্তসমূহ পূরণকরত: মাসিক ১৫০০০/- টাকা হারে তিনমাসব্যাপী শিক্ষানবিশ ভাতা বাবদ মোট ৮,৪৫০০০/- (পঁয়তাল্লিশ হাজার) টাকা কোম্পানির নিয়মানুযায়ী হিসাব বিভাগ কর্তৃক চেকের মাধ্যমে প্রদান করা হবে।

আপনার বিশ্বস্ত,

০৬-০২-২০২৫

শাহনেওয়াজ পারভেজ

ব্যবস্থাপনা পরিচালক (চলতি দায়িত্ব)

+৮৮০২৪১০১০৩৬৩ (ফোন)

৮৮-০২-৮১৪২২৫০ (ফ্যাক্স)

mdtitasgas@titasgas.org.bd

নম্বর: ২৮.১৩.০০০০.০৫৪.২৫.০১৬.২৪.২৫/১ (৩)

তারিখ: ২৩ মাঘ ১৪৩১ বঙ্গাব্দ
০৬ ফেব্রুয়ারি ২০২৫ খ্রিস্টাব্দ

অবগতি/অবগতি ও প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য অনুলিপি প্রেরণ করা হলো (জ্যেষ্ঠতার ক্রমানুসারে নয়):

- ১। মহাব্যবস্থাপক, মানব সম্পদ ডিভিশন, তিতাস গ্যাস ট্রান্সমিসন এণ্ড ডিস্ট্রিবিউশন পিএলসি।
- ২। উপমহাব্যবস্থাপক, রাজস্ব কন্ট্রোল ও মনিটরিং বিভাগ, তিতাস গ্যাস ট্রান্সমিসন এণ্ড ডিস্ট্রিবিউশন পিএলসি।
- ৩। ছাত্র Mr. Jawad islam Arnab, ID Number-203011026, University of Liberal Arts Bangladesh(ULAB, Marketing Department।



০৮-০২-২০২৫

শাহনেওয়াজ পারভেজ

ব্যবস্থাপনা পরিচালক (চলতি দায়িত্ব)

Turnitin Report