

**“EVALUATING QUALITY AND SAFETY MANAGEMENT IN GAS
HANDLING (SNGPL)”**



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Abstract

This project will evaluate the quality and safety management system at Sui Northern Gas Pipelines Limited (SNGPL) the biggest natural gas transmission and distribution (T&D) company in Pakistan. The main issue that has been tackled is the consistently high Unaccounted-for Gas (UFG), which results in the loss of revenue, disruption in service delivery, customer grievances and addition to the circular debt. The research project attributes technical (old pipelines, pipe corrosion, pipe pressure, delayed maintenance) and non-technical (theft, meter tampering, enforcement laxity, governance gaps) reasons. The project is based on the model of an integrated operational improvement process through root cause analysis, stakeholder mapping, SWOT, and PESTLE frameworks, with the aim of implementing four pillars of technical loss reduction, digital modernization (smart metering, SCADA, leak detection sensors), governance and workforce reform, and environmental sustainability alignment. The proposed approach is the gradual implementation of the roadmap, with the baseline assessment, testing in high-UFG zones, and continuous monitoring of performance. The quantitative targets include a reduction of 0.30-0.50 percentage points in UFG in three years which translates into estimated savings of PKR 2.843 billion.

At last we would like to thank our supervisor Sir Sabir Ali for their invaluable guidance and unprecedented support throughout this project.

Keywords: Unaccounted-for Gas (UFG), SNGPL, Quality management, Safety management, Smart metering, Gas distribution, Pakistan energy sector

Table of Contents

CHAPTER 1: INTRODUCTION.....	1
1.1 Background of the Energy Sector in Pakistan.....	1
1.2 Organizational Profile of Sui Northern Gas Pipelines Limited (SNGPL).....	1
1.3 Business Environment Analysis of SNGPL.....	3
1.4 SWOT Analysis of SNGPL.....	5
1.5 Problem Background.....	8
CHAPTER 2: PROBLEM DEFINITION & REQUIREMENT ANALYSIS....	9
2.1 Problem Statement.....	9
Organization-Specific Evidence Used in This Study	11
2.2 Root Cause Analysis	11
2.3 Stakeholder Requirement Analysis.....	13
2.5 Project Objectives & Deliverables	16
Scope and Limitations of the Study.....	16
CHAPTER 3: DESIGN & IMPLEMENTATION PLAN.....	19
3.1 Proposed Integrated Operational Improvement Model for SNGPL	19
3.2 Tools, Techniques, and Technologies for Implementation.....	20
3.3 Step-by-Step Implementation Strategy	20
3.4 Resource Allocation Plan	22
3.5 Risk Assessment and Mitigation Plan.....	25
3.6 Success Metrics and Key Performance Indicators (KPIs).....	26
3.7 Financial Sustainability and Circular Debt Reduction Alignment	27
3.8 The impact of the product on the environment and sustainability.....	27
3.9 SNGPL Long-term strategic advantages.....	28
CHAPTER 4: TESTING AND DEPLOYMENT	29
Note on Testing Status	29
4.1 Testing Strategy	29
4.2 Reliability and Effectiveness Evaluation	30
4.3 Challenges Encountered During Testing and Solutions.....	31
4.4 Deployment Plan for Real Setting	35

4.5 KPIs for Deployment Success	36
CHAPTER 5: FUTURE ENHANCEMENT AND ACTION PLANS	39
5.1 Identified Improvements and Extensions	39
5.2 Practical Action Plan for Institutionalization	40
5.3 Long-term Organizational Impact and Sustainability	44
5.4 Strategic Recommendations for Management	45
CHAPTER 6: CONCLUSION.....	47
6.1 Summary of Project Outcomes and Findings	47
6.2 Significance for SNGPL and Pakistan’s Energy Sector	47
6.3 Critical Evaluation: What Worked, What Did Not, and Why	48
6.4 Managerial Implications and Lessons Learned	49
REFERENCES.....	51