

## Table of Contents

Chapter # 1.	INTRODUCTION.....	13
1.1	TYPE AND CATEGORY OF THE PROJECT:.....	13
1.2	LOCATION AND SITE LAYOUT OF THE PROJECT.....	13
1.2.1	ROAD ACCESS.....	14
1.2.2	VEGETATION FEATURES OF THE SITE.....	14
1.3	SCHEDULE OF IMPLEMENTATION.....	14
1.4	DESCRIPTION OF THE PROJECT:.....	15
1.4.1	OBJECTIVES OF THE PROJECT.....	15
1.4.2	NATURE, SIZE AND LOCATION OF PROJECT.....	15
1.4.3	LAND USE ON SITE.....	17
1.4.4	COST AND MAGNITUDE OF THE OPERATION.....	17
1.4.5	PROJECT PROCESS FLOW CHART:.....	17
1.4.6	MACHINERY.....	17
1.4.7	POWER REQUIREMENTS:.....	18
1.4.8	WATER REQUIREMENTS:.....	18
1.4.9	WASTE WATER TREATMENT:.....	18
1.4.10	SOLID WASTE:.....	19
1.4.11	PLANTATION.....	20
1.4.12	PARKING AREA.....	20
1.4.13	OCCUPATIONAL HEALTH AND SAFETY:.....	20
1.4.14	FIRST AID FACILITY:.....	20
1.4.15	POWER SOURCES AND TRANSMISSION:.....	21
1.4.16	PERSONAL PROTECTIVE EQUIPMENT:.....	21
1.4.17	SAFETY SIGNS/SAFETY BOARDS:.....	21
1.4.18	SECURITY.....	22
1.4.19	EMERGENCY EVACUATION PLAN:.....	22
1.4.20	POWER SOURCES AND TRANSMISSION:.....	22
1.4.21	RESTORATION / REHABILITATION PLAN.....	22
1.4.22	GOVERNMENT APPROVALS REQUIRED BY THE PROJECT:.....	22
1.5	PROCESS OF THE PROJECT.....	23
1.5.1	LPG PROCUREMENT AND DELIVERY.....	23
1.5.2	LPG STORAGE.....	23
1.5.3	VAPOR RECOVERY SYSTEM.....	24
1.5.4	LPG FILLING.....	24
1.5.5	CYLINDER QUALITY CHECK AND MAINTENANCE.....	24
1.5.6	STORAGE OF FILLED CYLINDERS.....	25
1.5.7	QUALITY CONTROL & MONITORING.....	25
1.5.8	LOADING & DISTRIBUTION.....	25
1.5.9	SAFETY MEASURES.....	25
1.5.10	PLANT MAINTENANCE AND SHUTDOWN.....	25
1.6	PURPOSE OF THE REPORT.....	26
1.7	IDENTIFICATION OF PROPONENT & CONSULTANT.....	26
1.7.1	PROponent.....	26
Chapter # 2.	SCREENING/TYPE AND CATEGORY OF PROJECT.....	27
Chapter # 3.	SCOPING.....	28
3.1	SPATIAL AND TEMPORAL BOUNDARIES OF ENVIRONMENTAL ASSESSMENT.....	28
3.2	IMPORTANT ISSUES AND CONCERNS RAISED DURING CONSULTATION.....	28
3.2.1	SIGNIFICANT IMPACTS TO BE DETERMINED.....	28
Chapter # 4.	ANALYSIS OF ALTERNATIVES.....	29
4.1	SITE ALTERNATIVES.....	29
4.2	TECHNOLOGY ALTERNATIVES.....	29
4.3	ENVIRONMENTAL ALTERNATIVES.....	29

Environmental Impact Assessment Report  
M/s Atlantic Gas Private Limited

4.3.1	GREEN BUILDING DESIGN:	29
4.3.2	CONTAINMENT AND SPILL PREVENTION:	30
4.3.3	ADVANCED MONITORING AND REPORTING:	30
4.3.4	STORMWATER MANAGEMENT:	30
4.4	ECONOMIC ALTERNATIVES	30
Chapter # 5.	DESCRIPTION OF ENVIRONMENT	31
5.1	GENERAL	31
5.2	PHYSICAL RESOURCES	31
5.3	Population Trends	31
5.3.1	LAND USE CHARACTERISTICS	31
5.3.2	GEOLOGY	32
5.3.3	TOPOGRAPHY	32
5.3.4	SOIL	33
5.3.5	SURFACE WATER (RIVERS & CANALS)	33
5.3.6	CLIMATE	33
5.3.7	WATER RESOURCES	36
5.3.8	VEGETATION COVER AND TREES	36
5.4	SOCIO-ECONOMIC AND CULTURAL FEATURES	37
5.4.1	POPULATION COMMUNITIES AND EMPLOYMENT	37
5.4.2	EDUCATION	37
5.5	QUALITY OF LIFE VALUES	37
5.5.1	PUBLIC HEALTH	37
5.6	ENVIRONMENTAL PARAMETERS FOR MONITORING	37
5.6.1	AIR QUALITY	38
5.6.2	NOISE LEVEL	38
5.6.3	DRINKING / GROUND WATER QUALITY	38
Chapter # 6.	SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES	39
6.1	IDENTIFICATION OF ALL IMPACTS:	39
6.2	METHODOLOGIES FOR IMPACT IDENTIFICATION:	39
6.2.1	PROJECT IMPACT EVALUATION MATRIX	39
6.2.2	IMPACT ANALYSIS AND PREDICTION:	42
6.2.3	CONSULTATIONS/ CASE STUDIES:	42
6.2.4	MEETINGS:	42
6.2.5	CHARACTERISTICS OF IMPACTS	43
6.3	IMPACT ASSESSMENT CRITERIA	43
6.3.1	POTENTIAL POSITIVE IMPACTS	43
6.3.2	ECONOMIC BENEFITS:	44
6.3.3	POTENTIAL NEGATIVE IMPACTS	44
6.4	MITIGATION ASSESSMENT CRITERIA	44
6.4.1	GENERAL PRINCIPLES	45
6.5	IMPACT SIGNIFICANCE	46
6.5.1	ECOLOGICAL IMPORTANCE NATURAL VEGETATION	46
6.5.2	FAUNA	46
6.5.3	SOCIAL IMPORTANCE	47
6.5.4	CULTURAL ISSUES	47
6.5.5	ACCIDENT RISKS	48
6.5.6	PRIVACY ISSUES	49
6.5.7	NOISE PROBLEMS	50
6.5.8	MOBILIZATION ISSUES	50
6.5.9	HEALTH	51
6.5.10	SAFETY:	51
6.5.11	LAND ACQUISITION RESETTLEMENT	52
6.5.12	CHANGES IN LAND USE	53
6.6	ASSESSMENT OF IMPACT	55

Environmental Impact Assessment Report  
M/s Atlantic Gas Private Limited

6.6.1	DUST EMISSIONS .....	55
6.6.2	GASEOUS EMISSIONS .....	55
6.6.3	NOISE LEVEL .....	56
6.7	REPLACEMENT, RELOCATION AND REHABILITATION:.....	57
Chapter # 7.	ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM.....	58
7.1	PURPOSE AND OBJECTIVES OF THE EMP: .....	58
7.2	MANAGEMENT APPROACH: .....	58
7.3	INSTITUTIONAL CAPACITY .....	58
7.4	SCHEDULE OF IMPLEMENTATION .....	58
7.5	TRAINING OF BUILDING CONTRACTOR .....	60
7.6	PROPOSED ENVIRONMENTAL MONITORING .....	61
7.6.1	AMBIENT AIR.....	61
7.6.2	NOISE .....	61
7.6.3	WATER QUALITY .....	61
7.7	RESPONSIBILITY OF EMP .....	61
7.7.1	EQUIPMENT MAINTENANCE DETAIL .....	62
7.8	ENVIRONMENTAL BUDGET .....	62
Chapter # 8.	STAKEHOLDERS PARTICIPATION .....	69
8.1	OBJECTIVES OF CONSULTATION .....	69
8.2	METHODOLOGY OF CONSULTATION: .....	69
8.3	PROPONENT .....	70
8.4	RESPONSIBLE AUTHORITY .....	70
8.5	OTHER DEPARTMENTS AND AGENCIES.....	70
8.6	AFFECTED & WIDER COMMUNITY .....	70
8.6.2	SAMPLE SIZE .....	71
8.6.3	STATISTICAL ANALYSIS.....	71
	FINDINGS OF THE OVERALL DISCUSSION:.....	74
Chapter # 9.	CONCLUSION AND RECOMMENDATIONS .....	75
9.1	CONCLUSIONS .....	75
9.2	RECOMMENDATIONS.....	75

### List of Tables

Table 1-1: Summary of Environmental impacts of the project during the project activities and their mitigation measures .....	9
Table 1-2: Summary of Environmental impacts of the project during the construction phase of project and their mitigation measures.....	11
Table 7-1: Training Program .....	59
Table 7-2: ENVIRONMENTAL MANAGEMENT PLAN OF M/S ATLANTIC GAS PRIVATE LIMITED.....	63
Table 8-1:Categories of stakeholders interviewed in the project area:.....	70

### Table of Figures

Table 1-1: Summary of Environmental impacts of the project during the project activities and their mitigation measures .....	9
Table 1-2: Summary of Environmental impacts of the project during the construction phase of project and their mitigation measures.....	11
Table 7-1: Training Program .....	59
Table 7-2: ENVIRONMENTAL MANAGEMENT PLAN OF M/S ATLANTIC GAS PRIVATE LIMITED.....	63
Table 8-1:Categories of stakeholders interviewed in the project area:.....	70

### List of Abbreviation

EMMP	Environment Management and Monitoring Plan
EPA	Environment Protection Agency
EPD	Environmental Protection Department
EIA	Environmental Impact Assessment
IEE	Initial Environment Examination
PEQS	Punjab Environmental Quality Standards
NGO	Non-Government Organizations
NOC	No Objection Certificate
HSE	Health, Safety and Environment
PEPA	Pakistan Environment Protection Act
PEPC	Pakistan Environmental Protection Council
PMD	Pakistan Meteorological Department
RO	Reverse Osmosis
TDS	Total Dissolve Solids
TOR	Terms of Reference
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Agency
USA	United States of America

# **EXECUTIVE SUMMARY**

# EXECUTIVE SUMMARY

## INTRODUCTION

This executive summary presents an overview of the main findings of the Environmental Impact Assessment Report for the Construction of LPG Storage and Filling Plant by M/S Atlantic Gas Private Limited located at Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala. This unit is likely to meet the increasing market demand for storage and distribution facilities for. This objective stems from the opportunity to capitalize on the growing industrial activities, urbanization, and infrastructure development in the region, thereby expanding the owners' business operations strategically while ensuring compliance with regulatory standards for safe storage and handling. M/S Atlantic Gas Private Limited has successfully secured permission from the Oil and Gas Regulatory Authority (OGRA), under License **No. OGRA-LPG-17(1357)/25**. License from OGRA is attached as **Annexure-I**.

For this instance, Environmental Impact Assessment of the project has been conducted in accord with the Punjab Environmental Protection Act, 1997 and IEE/EIA Regulations 2022. The process for conducting environmental assessment and the results of EIA is described in this document.

## SALIENT FEATURES OF PROJECT:

1.	Project Title	Construction of LPG Storage and Filling Plant by M/S Atlantic Gas Private Limited.
2.	Project Location	Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala,
3.	Nos of Storage Tanks and storage capacity	Total Nos of Tanks: 02 Total LPG Capacity: 25 MT/Day Total Storage Capacity: 50 2 MT = 100 MT
3.	Proponent	Mr. Saif Ullah Manghat
4.	Consultant	Environmental Services Pakistan
5.	Total Area of Project	16 Kanal 19 Marla
9.	Present status of Land Use	Barren Plot
10.	Cost of Project	Approx. 9 crore rupees.
15.	Status of Project	Pre-Construction Phase

## PROJECT OBJECTIVES

The Construction of LPG Storage and Filling Plant at Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala, is driven by various objectives, including meeting the growing market demand for storage and distribution facilities for LPG, expanding their business operations strategically,

improving logistics efficiency through dedicated storage infrastructure, ensuring compliance with regulatory requirements for safe handling and storage, enhancing competitiveness by offering superior storage solutions and reliable supply to customers, mitigating risks associated with storing materials, and fulfilling corporate social responsibility goals by contributing to the local economy.

## **SITE ALTERNATIVES**

No alternative sites were considered, as the proposed land is already leased by the project proponent and partners. The selected location is deemed most suitable for commercial activities due to its ownership status and strategic suitability. This site is chosen because site is well located in regard to the following:

- Easy access
- No settlements in close vicinity
- No ecologically sensitive or declared protected area
- No historical, educational or religious site nearby
- No vegetation at the selected site

As no important religious, archaeological, historical or recreational site, or any other ecologically sensitive, declared protected area or poor population exists within close vicinity of the selected site. In view of these facts, it can be concluded that the Selected Site is best suited for the project and will not pose any adverse impact or threat on any component of the environment and will not disturb ecology.

## **ECONOMIC ALTERNATIVE**

The immediate economic benefits of the proposed project are a generation of employment opportunities and revenue. The direct and indirect jobs creation will occur in a broad range of industries such as construction services, repair and maintenance, electricity supply, hardware and building supplies retailing, motor vehicle and parts retailing, water supply, sewerage and drainage services, waste collection, treatment and disposal services, gas supply, rental and hiring services, garden supplies retailing, cleaning and janitorial, pest control, printing, etc.

**Direct Job Creation:** The project timeline is of three years, which means that the project will create multiple jobs.

## **ENVIRONMENTAL ALTERNATIVE**

The proposed project site is located in an urban area. There may be potential environmental and human health impacts of the proposed project during the construction phase of the

project. However, the proposed project will have an efficient solid waste management system, and features of the eco-friendly building, such as the use of energy-efficient items, have been planned.

Considering the environmental protection measures to be taken during the construction and operational phase of the project and the sustainable features of the proposed project, it can be implied that the proposed project will enhance the environment of the project area during the operational phase of the project especially when looking at the alternatives to the project.

## **SCREENING**

Section 12 of Punjab environmental protection act, 1997 amended (2017) states “No proponent of project shall commence construction or operation unless he has filed with the government agency designated by Federal Environmental Protection Agency or provincial agencies, as the case may be or, where the project is likely to cause and adverse environmental effects an environmental impact assessment (EIA), and has obtained from the government agency approval in respect thereof.” PEPA act provided the guidelines for categorizing the projects.

The Proposed Project; i.e., Construction of LPG Storage and Filling Plant falls under Schedule-II, Category A (Energy), Clause 5 “Oil and gas extraction projects including exploration, production, gathering systems, separation and storage, under Punjab Environmental Protection (Review of EIA/IEE) Regulations,2022. Thus, and EIA report is being prepared and submitted accordingly for approval. TORs of the study under clause 5 (f) of policy and procedure for the filing, review and approval of environmental assessment are attached as Annexure-A with this EIA report.

## **PROJECT OUTLINE**

The Proposed Project is entitled as “LPG Storage and Filling Plant by M/S Atlantic Gas Private Limited at Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala,”. The proposed land is already leased by the project proponent. The primary objective behind the construction of the LPG Storage and Filling Plant by the owners is likely to meet the increasing market demand for storage and distribution facilities for LPG. This objective stems from the opportunity to capitalize on the growing industrial activities, urbanization, and infrastructure development in the region, thereby expanding the owners' business operations strategically while ensuring compliance with regulatory standards for safe storage and handling.

## THE MAJOR IMPACTS

In order to identify all the activities associated with the project during operation phase with potential to cause adverse environmental impacts and harm a thorough review has been conducted. Project does not have any significant adverse impacts on the nearby community and on environment. Overall, the project has positive impacts on the local population and country as a whole. Moreover, area for plantation is also reserved for air purification within the project vicinity.

**Table 1-1: Summary of Environmental impacts of the project during the project activities and their mitigation measures**

Potential Impact	Criteria for determining Significance	Key Mitigation Measures
Solid waste Management— If solid waste will not be managed properly, it may cause negative impacts	Solid waste may produce in result of machinery installation e.g. wasted parts of machinery, wasted screws, nails and bolts. But most of the solid waste will be of domestic type.	Machinery installation waste should be sold in scrap as it can be used by steel and iron industry. Domestic waste should be disposed of properly, handed over to contractors, placed in bins; Proper solid waste management plan should be devised and implemented.
Waste water - water used for washing purposes	PEQS parameters	Waste water should be treated in the Effluent treatment plant and then disposed of in the nearest drain.
Noise- Noise may be generated during fitting and installation activities (drilling etc.) and from generators at the project site; which may be a nuisance for the workers as well as neighbors	OSHA standards	Activities generating high levels of noise should be minimized at the project site. If the noise level will exceed the permissible limits with reference to Punjab Environmental Quality Standards and OSHA standards, following recommendations are suggested to take action against the high noise levels: Ear muffs and ear plugs are recommended in case of high noise levels. Rubber mounds should be placed underneath the generator to avoid the vibration.
Socioeconomic impacts—Inter-cultural differences between the project staff from other areas and the local community may arise due to the subject project. Positive socioeconomic impacts due to	No community complaints are expected. Increased employment facilities Increased infrastructure	Training of the non-local project staff on local culture and norms; Avoidance of unnecessary interaction of local population with the non-local project staff. Employment opportunities should be provided to the local people.

Environmental Impact Assessment Report  
M/s Atlantic Gas Private Limited

increased infrastructure, employment opportunities and economic growth.		
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**Table 1-2: Summary of Environmental impacts of the project during the construction phase of project and their mitigation measures**

<b>Potential Impact</b>	<b>Key Mitigation Measures</b>
Dust Emissions- Particulate matter emissions during production activities can affect the air quality in the working area and be a nuisance for the workers' health. Gaseous emissions from site generators can result in deterioration of ambient air quality of the outdoor environment.	PPEs i.e. masks should be provided to workers during the working hours. Proper ventilation will be provided in the working area. Vehicles to use for the transportation of materials should be properly tuned. Monitoring should be conducted as per EPA PEQS Rules on regular intervals.
Machinery Noise- Working of machinery can be a nuisance for the workers in the working area.	PPEs i.e. ear muffs will be provided to workers in case of high noise.
Health & Safety Issues- Health and Safety issues e.g. Cuts and Injuries may be caused during the machinery handling.	Proper training of the staff should be conducted on regular basis to avoid the accidents and training record will be maintained by the management. First aid measures should be provided at the workplace. HSE policy will be formulated and implemented by management. Use of PPEs will be ensured during project activities.
Discharge of wastewater- The discharge of untreated wastewater can be a negative impact.	No wastewater will be disposed of into drain without having treatment in wastewater treatment plant. After treatment wastewater will be disposed of into nearest drainage system. Compliance of PEQS for Municipal and Liquid Industrial Effluents will be ensured. Monitoring will be conducted as per PEQS and reports will be submitted to EPA as per Rule (if required)
Solid waste management- Improper solid waste management may cause health problems and aesthetic issues	Waste bins will be placed at suitable areas at unit and contract will be made with EPA approved contractor for hazardous waste disposal. Domestic waste should be handed over to local contractors for safe disposal of the waste.
Groundwater—The increased withdrawal of groundwater for the project will affect the groundwater resources of the project area	No impact on the community groundwater needs is envisaged as a result of the project (ensured by management)

### **PROPOSED ENVIRONMENTAL MONITORING**

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Monitoring for following Environmental Parameters is recommended:

**AMBIENT AIR**

Monitoring for ambient air should be conducted during operational activities of the project and report should be submitted to EPA Punjab.

**NOISE**

Regular monitoring for noise level should be maintained periodically during operation phases of the project and report should be submitted to EPA Punjab as per rule.

**WATER QUALITY**

Regular monitoring of water quality should be conducted during operational phases of the project and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

Recommendation: Environmental Monitoring data log book should be maintained by the project proponent.

# **CHAPTER 1: INTRODUCTION**

## CHAPTER # 1. INTRODUCTION

This Section of the report provides an overview of the rationale of the Project, objective of project, requirement of the project, purpose of the report and approach adopted to conduct the Environmental Impact Assessment Study.

### 1.1 TYPE AND CATEGORY OF THE PROJECT:

The subject project is the proposed Construction of LPG Storage and Filling Plant under the name of M/S Atlantic Gas Private Limited. The Project site is located at Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala. The current Environmental Impact Assessment study has been conducted for the development of the LPG Storage and Filling.

The Proposed Project; i.e., Construction of LPG Storage and Filling Plant falls under Schedule-II, Category A (Energy), Clause 5 "Oil and gas extraction projects including exploration, production, gathering systems, separation and storage, under Punjab Environmental Protection (Review of EIA/IEE) Regulations, 2022. TORs of the study under clause 5 (f) of policy and procedure for the filing, review, and approval of environmental assessment are attached as **Annexure-A** with this EIA report.

### 1.2 LOCATION AND SITE LAYOUT OF THE PROJECT

Project site is located at Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala,

Land coordinates of the project site are given below:

The Location Coordinates are:

- 32° 2'3.29"N
- 73°56'48.00"E

North..... Road

South..... Open Land

East..... Ali Azhar Petroleum

West..... Open Land



Figure 1-1: Google Map of the Project Site

### 1.2.1 ROAD ACCESS

Main access road present at the front side of the project site connect it directly to Sheikhupura Road

### 1.2.2 VEGETATION FEATURES OF THE SITE

Land proposed for the subject project is clear and free of dense vegetation, only shrubs like *Parthenium* and grasses are present over there in scattered quantity. Few and scattered amount of vegetation will help to avoid land clearing at the project site.

### 1.3 SCHEDULE OF IMPLEMENTATION

Detailed feasibility studies and designing of the project have been completed. Necessary legal, administrative and financial formalities are being finalized. The project is expected to be completed within 10-12 months from the date of environmental approval. Subsequently the operational and maintenance aspects of the project will be undertaken by the proponent.



**Figure 1-2: Schedule of Implementation**

#### **1.4 DESCRIPTION OF THE PROJECT:**

The said project is proposed construction of LPG Storage and Filling Plant under the name of M/S Atlantic Gas Private Limited. It is located at Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala, M/S Atlantic Gas Private Limited has successfully secured permission from the Oil and Gas Regulatory Authority (OGRA), under License **No. OGRA-LPG-17(1300)/24**.

The capacity of the proposed LPG Storage and Filling Plant is 2 50 MT. Total area of the project is 16 Kanal 19 Marla. The estimated cost of the project is Approx. 9 crore rupees. There are no other associated activities with regard to the subject project. As the water will not be used in the project process and also there will not be any kind of gaseous emissions from the project related activity.

##### **1.4.1 OBJECTIVES OF THE PROJECT**

Objectives of the operation of the subject project is:

- To support expanding market reach by supplying LPG to a wider customer base, including residential and commercial users.
- To establish the business for the proponent.
- To contribute to the national economy of the country.
- Compensate to help poverty by providing employment

##### **1.4.2 NATURE, SIZE AND LOCATION OF PROJECT**

The core component of the project comprises the installation of two storage tanks, each with a capacity of 50 MT. These tanks will be constructed in compliance with OGRA standards

and equipped with advanced safety features, including double-walled construction, leak detection systems, and spill containment measures.

In addition to the storage tanks, the project will include the construction of executive and managerial offices to oversee the operations of the facility. These office spaces will provide administrative support and serve as hubs for managing day-to-day activities.

To ensure the safety of personnel and the surrounding environment, the project will be equipped with fire hydrant points strategically located near the underground water tanks. Additionally, comprehensive emergency response protocols will be established to address any potential incidents, including spills, leaks, or other environmental emergencies.

The project will adhere to stringent precautionary measures to mitigate the risk of environmental harm. This includes regular inspection and maintenance of storage tanks, implementation of best practices for handling and transportation of LPG, and training of personnel on emergency response procedures.

The project will adhere to all relevant environmental regulations and standards set forth by regulatory authorities. This includes obtaining necessary permits and approvals for the construction and operation of the facility, as well as ongoing compliance monitoring to ensure adherence to environmental requirements.

#### **1.4.2.1 LOCATION**

Subject unit is located at Khewat No 62 Khatooni No, 172 to 225, Khasra No 352,356 Mouza Chak Chohar, Tehsil Naushera Virkan District Gujranwala,

The Location Coordinates are:

- 31.034104°N
- 73.946306°E

North..... Road

South..... Open Plot

East..... Ali Azhar Petroleum

West..... Open Plot



Figure 1-3: Location of Proposed Project

#### 1.4.3 LAND USE ON SITE

Nature of the area is agricultural; Site selected for the subject project is an open plot and it is owned by the proponent and his brother who has granted permission for the construction of LPG Storage and Filling Plant.

#### 1.4.4 COST AND MAGNITUDE OF THE OPERATION

Subject project is the Construction of LPG Storage and Filling Plant in district Faisalabad. Total cost of the project will be Approx. 9 crore rupees., which will include the cost of machineries, its processing in unit and provision of electricity. There are no other associated activities with regard to the subject project.

#### 1.4.5 PROJECT PROCESS FLOW CHART:

#### 1.4.6 MACHINERY

- LPG Storage Vassel
- LPG Compressor
- Pressure Guage 1/2" 0-300
- Pressure Guage 1/4" 0-200
- Safety Valve for Air Compressor
- Safet Valves
- Multi-port
- Roto Gauges

- Internal Valves with Thermal Fuse
- Back Check Valves
- LPG Scales Cylinder's Filling

#### 1.4.7 POWER REQUIREMENTS:

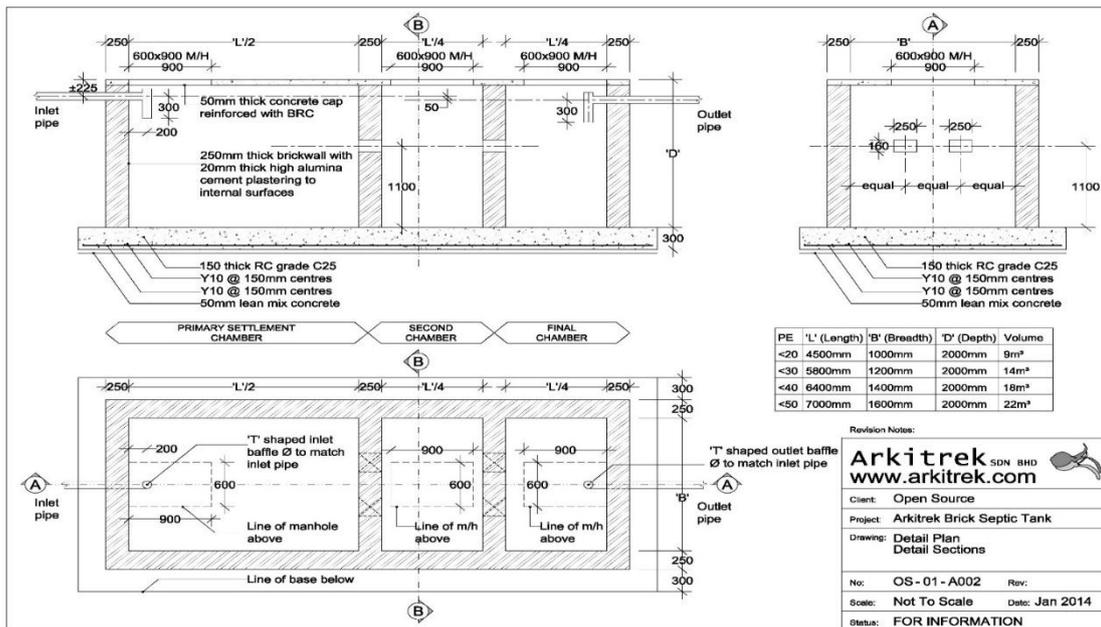
The process will be done with automatic running machines. And machines will be run with the electricity. Power requirements will be fulfilled by WAPDA.

#### 1.4.8 WATER REQUIREMENTS:

During Construction: approximately 5,000 gallon per day for construction and domestic uses.

During Operation: maximum 10,000 gallons/d for domestic. Ground water will be used as a source of water to fulfill the water requirements during the construction and operation phases of the project.

#### 1.4.9 WASTE WATER TREATMENT:



60-70% of the used water for domestic purposes will be the waste water which will be produced during the operation phase of the project. The generated wastewater will be treated in treatment facility (Septic Tank) of unit. Water after treatment will be disposed of in the nearby drain.

#### **1.4.10 SOLID WASTE:**

During the construction phase of the project, 75 kg/day construction and domestic waste will be produced. Constructional waste will be recycled during the constructional activities for road filling and maintenance purposes. According to an estimate, 11.000 kg/day domestic and project related solid waste will be produced during the operation phase of the project (based on solid waste generation rates of 0.45 kg/capita/day urban waste generation). In an LPG (Liquefied Petroleum Gas) storage and filling plant, solid waste generation is relatively low compared to other industrial facilities, but there are still some specific sources of solid waste. These wastes typically arise from maintenance activities, packaging materials, and used components. Project related waste will include LPG cylinders become damaged, corroded, or fail safety inspections. These cylinders are either repaired, recycled. Scrap metal (valves), rubber, and plastic (seals and gaskets) which will be handed over to the certified contractors.

##### **1.4.10.1 SOLID WASTE MANAGEMENT SYSTEM/PRACTICES**

The Solid waste will be managed in proper way by following operations:

- Placement of separate waste bins for domestic and project related waste in all working halls and designated points.
- Collection of waste from all the working halls at one designated point by the sanitary workers on daily basis.
- Collected waste will be handed over to the solid waste contractors for its final disposal, from this point.

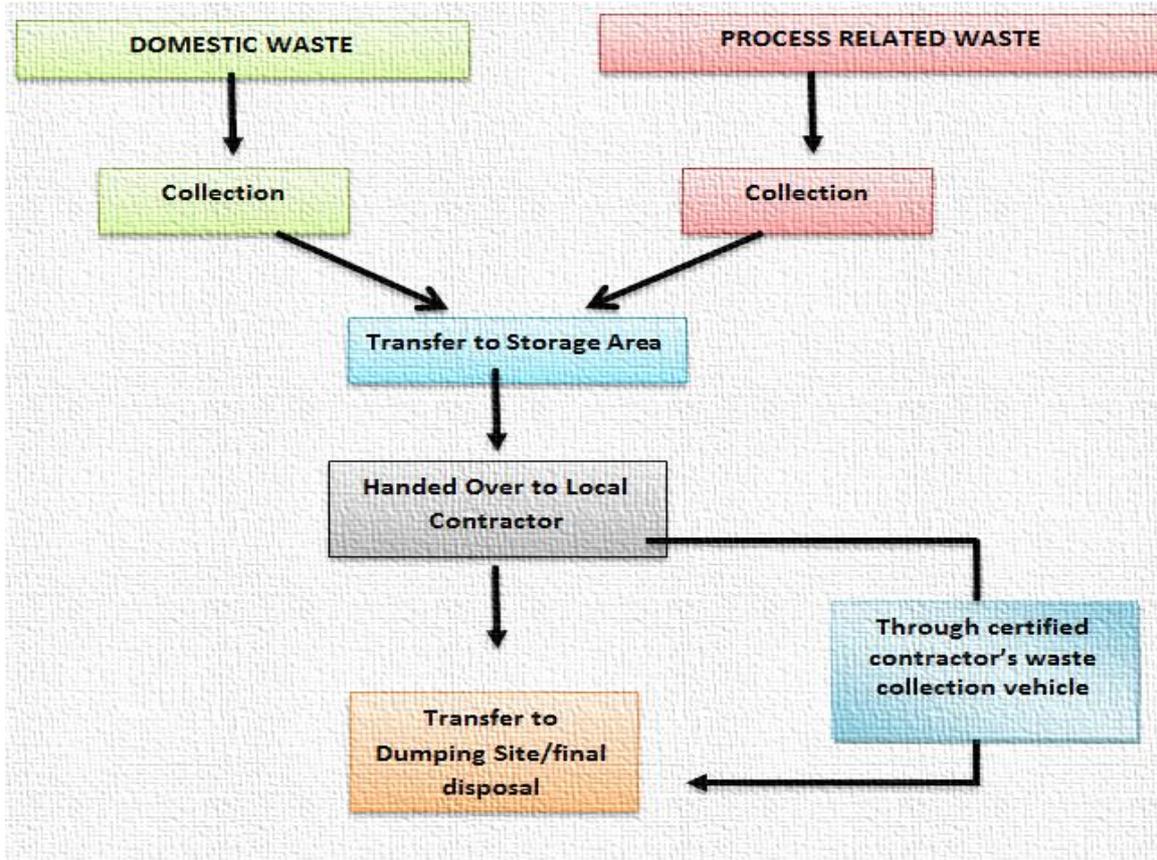


Figure 1-4: FLOW CHART OF SOLID WASTE MANAGEMENT PLAN

#### 1.4.11 PLANTATION

Area for plantation will be reserved within the premises of the project and plantation will be done within, outside and at the boundary wall of the unit.

#### 1.4.12 PARKING AREA

Parking area will be provided in the subject proposed project. Unit will allocate ample area for parking purpose.

#### 1.4.13 OCCUPATIONAL HEALTH AND SAFETY:

All the methods and procedures of health and safety will be adopted at the project site to ensure the health and safety of the workers.

#### 1.4.14 FIRST AID FACILITY:

Proper medical facilities and proper training about first aid will be provided to workers of the subject project to cope with any accidents.

#### **1.4.15 POWER SOURCES AND TRANSMISSION:**

The power requirements will be fulfilled by WAPDA. However, a diesel fired stand by generator (if needed) will also be used for emergency situations only.

Following measures will be ensured for the operational equipment maintenance:

- Operator training
- Technician training
- Scheduled maintenance
- Regular oil analysis
- Repairs

#### **1.4.16 PERSONAL PROTECTIVE EQUIPMENT:**

PPEs will be provided to the workers during the working hours to ensure personnel health and safety and their implementation will also be ensured. Details of PPEs required for different occupational hazards are given below:

#### **1.4.17 SAFETY SIGNS/SAFETY BOARDS:**

At any workplace safety signs and symbols are very important to avoid many accidents. They must be in easy and understandable language to all the workers. Workers should have the knowledge of sign wordings and they must be trained and aware about them. Safety signs, symbols and boards will be provided at the proposed project site to protect the workers and employees from the risks of hazards that has not been controlled by other means. Safety signs and boards give safety message and they must be of different colors that workers could understand their meanings easily. At the subject project, safety signs and boards will be placed to avoid the workers and staff from any risk.

FIRE FIGHTING REQUIREMENT				
S.NO.	STMBOL	ABR	QTY.	DESCRIPTION
1.	⊗	FH	2 NOS.	FIRE HYDRANT
2.	⊞	SB	8 NOS.	SAND BUCKETS
3.	⊖	FE	14 NOS.	FIRE EXTINGUISHER 12KG
4.	⊕	EC	9 NOS.	EARTH CONDUCTOR
5.	⊙	FE	3 NOS.	FIRE EXTINGUISHER 50KG
6.	⊞	ESD	2 NOS.	EMERGENCY SHUT DOWN
7.	⊙	WP	3 NOS.	WATER SPRINKLER
8.	⊞	FM	4 NOS.	FIRE MONITOR
9.				

Design by: ASKRI ENGINEERING & LPG SERVICES (Regd)  
Checked by: MAJ(R) AMIN CH  
Client Approval: M/S SUFI LPG (PVT) LTD. SUFI LPG (PVT) LTD. Signature: [Signature] Date: [Date]

#### 1.4.18 SECURITY

Security guards will present round the clock to maintain its security. Beside this security cameras at various places will be installed.

#### 1.4.19 EMERGENCY EVACUATION PLAN:

Emergency preparedness and evacuation plan will be formulated and adopted for the individual industries.

#### 1.4.20 POWER SOURCES AND TRANSMISSION:

Electricity requirements at the project site will be fulfilled by WAPDA.

#### 1.4.21 RESTORATION / REHABILITATION PLAN

All possible precautions will be taken to prevent an untoward incident in terms of life and property losses. The demolition materials will possibly be reused and recycled. All excavated surfaces will be termite proofed.

On completion of the project, the debris will be removed from the site in order to maintain aesthetics of the project. All measures will be undertaken for ensuring occupational safety, security and clean environment in the project area. Ornamental trees and flower plants will be planted on inside peripheral of the unit premises to restore the land.

#### 1.4.22 GOVERNMENT APPROVALS REQUIRED BY THE PROJECT:

All the approvals had been obtained by the project proponent and their copies are attached with this EIA report.

## 1.5 PROCESS OF THE PROJECT

A Liquefied Petroleum Gas (LPG) storage and filling plant involves several critical steps to ensure safe and efficient handling, storage, and distribution of LPG. Here's a complete process description for an LPG storage and filling plant:

### 1.5.1 LPG PROCUREMENT AND DELIVERY

**PROCUREMENT:** LPG is typically procured from refineries or gas processing plants. It is either delivered via transported by road in LPG tankers.

**RECEIVING LPG:** The LPG is offloaded from the transport tankers and transferred to storage facilities. This is done using pumping systems that ensure a controlled transfer, often under high pressure.

### 1.5.2 LPG STORAGE

**STORAGE TANKS:** LPG is stored in specialized pressurized storage tanks, usually either cylindrical or spherical in shape, designed to handle the high-pressure requirements of LPG.

**PRESSURIZATION & TEMPERATURE CONTROL:** Since LPG is stored in liquid form under pressure, these storage tanks are equipped with pressure and temperature control mechanisms to prevent gas vaporization.

**SAFETY FEATURES:** The tanks are equipped with safety features like pressure relief valves, level indicators, and emergency shutdown systems to handle any anomalies or emergencies.

#### 1.5.2.1 STORAGE TANKS SPECIFICATIONS

The core component of the project comprises the installation of two storage tanks, each with a capacity of 50 MT. These tanks will be constructed using corrosion-resistant materials such as steel or fiberglass-reinforced plastic (FRP). They will feature double-walled construction, providing an extra layer of protection against leaks and spills. A leak detection system will be installed between the inner and outer walls to monitor for leaks.

The tanks will be equipped with ventilation systems to prevent pressure buildup and ensure proper vapor ventilation. Automated monitoring and control systems will be in place to track tank levels, temperatures, and other parameters, with remote monitoring capabilities for real-time oversight. Safety features include overfill protection devices, grounding and bonding systems to prevent static electricity buildup, and emergency shutoff valves for rapid isolation during emergencies.

Tanks will be labeled with appropriate signage indicating contents, capacity, and safety precautions, with emergency contact information displayed prominently. Regular inspection, maintenance, and testing programs will ensure the integrity and safety of the tanks, including routine testing and calibration of monitoring systems.

### **1.5.3 VAPOR RECOVERY SYSTEM**

**GAS FUMES RECOVERY:** LPG tends to vaporize due to temperature changes, and these vapors are collected by a vapor recovery system. This helps reduce product loss and minimizes the risk of gas leakage into the atmosphere.

### **1.5.4 LPG FILLING**

**CYLINDER FILLING:** The LPG is then transferred from the storage tanks to filling stations where it is dispensed into cylinders.

**FILLING STATION:** Cylinders are filled on a specially designed filling platform or carousel. Automatic filling machines weigh and control the filling process to ensure precise amounts of LPG are dispensed into each cylinder.

**SAFETY CHECKS:** Cylinders are checked for any possible leaks using soap water or an ultrasonic leak detector.

**BULK FILLING:** LPG can also be transferred in bulk for industrial clients via bulk road tankers or large storage tanks at customer locations. Special high-capacity pumps are used for bulk filling.

### **1.5.5 CYLINDER QUALITY CHECK AND MAINTENANCE**

**INSPECTION:** Before filling, cylinders are visually inspected for dents, rust, or damage. Damaged cylinders are set aside for repair or decommissioning.

**PRESSURE TESTING:** Cylinders are pressure tested periodically to ensure they can safely hold LPG under pressure.

**VALVES & SEALING:** Cylinder valves are checked and replaced if needed. Once the cylinder is filled, it is sealed to prevent gas leakage.

## **6. WEIGHING & SEALING**

**WEIGHING THE CYLINDER:** After filling, each cylinder is weighed to ensure it contains the correct amount of LPG. Any discrepancies are adjusted.

**SEALING THE CYLINDER:** Once the correct weight is confirmed, the valve is sealed with a tamper-proof safety cap to ensure that there is no leakage and that the cylinder has not been tampered with.

### **1.5.6 STORAGE OF FILLED CYLINDERS**

**STORAGE AREA:** Filled cylinders are stored in a well-ventilated storage area, segregated from the empty cylinders. The storage area is designed with fire safety systems such as sprinklers, fire extinguishers, and proper ventilation.

**SAFETY PRECAUTIONS:** The storage area is equipped with explosion-proof lighting, fire hydrants, and emergency shutdown systems.

### **1.5.7 QUALITY CONTROL & MONITORING**

**LEAK DETECTION:** Throughout the plant, LPG leakage detectors monitor for potential leaks.

**SAFETY DRILLS:** Routine safety drills are conducted, and plant personnel are trained in fire safety and emergency procedures.

**MONITORING SYSTEMS:** There will be proper systems that are often used to monitor tank levels, pressure, and temperature continuously.

### **1.5.8 LOADING & DISTRIBUTION**

**TRANSPORT PREPARATION:** Filled cylinders are loaded onto distribution vehicles, typically trucks, which transport them to distribution centers, retailers, or customers.

**BULK TANKERS:** For bulk customers, LPG is pumped into road tankers for delivery, which are equipped with safety mechanisms like emergency shutoff valves.

### **1.5.9 SAFETY MEASURES**

**FIRE SAFETY:** The plant is equipped with fire detection systems, gas detectors, fire extinguishers, and sprinklers.

**EMERGENCY RESPONSE PLANS:** Regular safety training is provided to staff, and emergency response plans are rehearsed.

**SIGNAGE & ACCESS CONTROL:** Safety signage is displayed prominently, and access to hazardous areas is controlled.

### **1.5.10 PLANT MAINTENANCE AND SHUTDOWN**

**REGULAR INSPECTIONS:** Equipment like storage tanks, pipelines, pumps, and valves undergo regular inspections and maintenance.

**SHUTDOWN PROCEDURE:** For maintenance or emergency situations, a systematic shutdown procedure is in place, which includes depressurization of storage tanks, isolation of valves, and securing the gas supply.

## 1.6 PURPOSE OF THE REPORT

The Environmental Impact Assessment (EIA) report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab, Lahore for compliance of Section 12 of the Punjab Environment Protection Act-1997 (Amended 2017) for obtaining a No Objection Certificate (NOC). The other relevant regulations and guidelines considered while preparing this EIA report include:

- Policy and procedures for filing, review and approval of environmental assessments.
- Guidelines for the preparation and review of environmental reports.
- Guidelines for public participation.
- Guidelines for sensitive and critical areas.
- Detailed sectoral guidelines

Various aspects like environmental, social, physical and other aspects of the project both during construction and its regular occupancy are highlighted in this EIA report. Measures necessary to be adopted to mitigate any environmental impacts on any part of the environment around are also described. All the important information is also provided as described under the format used to help decision makers, EPA Punjab in the present case, before issuing the desired Environmental Approval.

## 1.7 IDENTIFICATION OF PROPONENT & CONSULTANT

The proponent has been submitting this EIA report, the said project is proposed and the proponent wants to get Environmental approval for LPG Storage and Filling Plant under the name of M/S Atlantic Gas Private Limited.

### 1.7.1 PROPONENT

Name: Mr. Saif Ullah Manghat

CNIC# 34103-0526383-7

Mailing Address: Post Office Gaggey, Chak Chaudry, Naushera Virkan, District Gujranwala

For further details, CNIC of the proponent and other relevant documents are attached as **Annexure-B**.

**CHAPTER 2: SCREENING/TYPE**  
**AND CATEGORY OF PROJECT**

## **CHAPTER # 2. SCREENING/TYPE AND CATEGORY OF PROJECT**

Section 12 of Punjab environmental protection act, 1997 amended (2017) states “No proponent of project shall commence construction or operation unless he has filed with the government agency designated by Federal Environmental Protection Agency or provincial agencies, as the case may be or, where the project is likely to cause and adverse environmental effects an environmental impact assessment (EIA), and has obtained from the government agency approval in respect thereof.” The PEPA Act provided the guidelines for categorizing the projects.

The Proposed Project; i.e., Construction of LPG Storage and Filling Plant falls under Schedule-II, Category A (Energy), Clause 5 “Oil and gas extraction projects including exploration, production, gathering systems, separation and storage, under Punjab Environmental Protection (Review of EIA/IEE) Regulations,2022.

## **CHAPTER 3: SCOPING**

## **CHAPTER # 3. SCOPING**

### **3.1 SPATIAL AND TEMPORAL BOUNDARIES OF ENVIRONMENTAL ASSESSMENT**

The project falls in non-Industrial area of district Gujranwala. This project spans at the area of 16 Kanal 19 Marla. The main road along with the project site is Sheikhupura – Gujranwala Road. The Above map shows the spatial and temporal boundaries of the project.

### **3.2 IMPORTANT ISSUES AND CONCERNS RAISED DURING CONSULTATION**

Important issue and concerns raised by the community during consultation include the impact of gas leakage. However, the proponent has assured that a proper detection system will be installed, and comprehensive safety measures will be implemented to mitigate any risks. Hence will not cause any issues to the community. The community was also concerned about employment for local people. The proponent made sure that maximum job opportunities for plant management will be provided to the residents.

#### **3.2.1 SIGNIFICANT IMPACTS TO BE DETERMINED**

A key concern regarding the construction of the LPG storage and filling plant is the risk of gas leakage, which could pose significant safety hazards. However, the proponent has provided assurances that the facility will be equipped with a reliable gas detection system to promptly identify any leaks. Additionally, comprehensive safety measures, including proper ventilation, emergency response protocols, and fire safety systems, will be implemented to ensure the safety and security of the plant and surrounding areas. These precautions aim to minimize the risks associated with gas leakage and ensure the plant operates within safety standards.

**CHAPTER 4: ANALYSIS OF  
ALTERNATIVES**

## **CHAPTER # 4. ANALYSIS OF ALTERNATIVES**

The consideration of alternatives is a crucial step in evaluating the potential environmental effects of a proposed project. The purpose of assessing alternatives is to identify and compare different options to achieve the project's objectives, taking into account environmental, social, and economic considerations.

### **4.1 SITE ALTERNATIVES**

No site alternatives were considered as the Unit will be established on land leased by proponent. The land is leased by the proponent who has granted permission for the 25 years. This site is chosen because site is well located in regard to the following:

- Easy road access
- No settlements in close vicinity
- No ecologically sensitive or declared protected area
- No historical, educational or religious site nearby
- No vegetation at the selected site

As no important religious, archaeological, historical or recreational site, or any other ecologically sensitive, declared protected area exists within close vicinity of the selected site. In view of these facts, it can be concluded that the Selected Site is best suited for the project and will not pose any adverse impact or threat on any component of the environment and will not disturb ecology.

### **4.2 TECHNOLOGY ALTERNATIVES**

Since no technology will be used in this project and this project is an LPG storage unit which will only be used to store LPG, technology alternatives have not been considered in this project. However, automatic storage and handling can be promoted to avoid storage risk.

### **4.3 ENVIRONMENTAL ALTERNATIVES**

When considering environmental alternatives for the LPG storage unit, several approaches can be explored to minimize the project's impact on the environment and promote sustainability. Here are some environmental alternatives to consider:

#### **4.3.1 GREEN BUILDING DESIGN:**

Implementing green building principles in the design and construction of the storage facility can enhance energy efficiency, reduce resource consumption, and minimize waste generation. This can include using sustainable materials, incorporating renewable energy sources like optimizing the building's orientation for natural lighting and ventilation.

#### **4.3.2 CONTAINMENT AND SPILL PREVENTION:**

Implementing robust containment measures and spill prevention systems can significantly reduce the risk of environmental contamination in the event of leaks or spills. This may involve installing secondary containment systems, leak detection technologies, and automated shut-off systems to minimize the spread of hazardous materials.

#### **4.3.3 ADVANCED MONITORING AND REPORTING:**

Utilizing advanced monitoring technologies and real-time reporting systems can enhance environmental compliance and response capabilities. Implementing air quality monitoring stations, groundwater monitoring wells, and remote sensing technologies can provide early detection of environmental risks and facilitate timely mitigation efforts.

#### **4.3.4 STORMWATER MANAGEMENT:**

Effective storm water management practices will be implemented to prevent pollution of nearby water bodies and reduce the risk of runoff contamination. This can include installing retention ponds, vegetative buffers, and permeable pavement to capture and treat storm water runoff before it enters natural waterways.

### **4.4 ECONOMIC ALTERNATIVES**

Economic alternatives were considered taking into consideration the capital and operation costs for the proposed unit. Land cost, infrastructure cost and machinery cost were taken into account as the deciding economic factor. Accordingly, land is selected is near to enough wide road that is Sheikhpura Road. So that the infrastructure and management costs get minimized due to already developed roads.

Also state of the art machinery will be employed considering it as one-time investment and thus minimizing the maintenance cost during the operational phase. Additionally, it will contribute towards uninterrupted production during operational phase.

**CHAPTER 5: DESCRIPTION OF  
ENVIRONMENT**

## **CHAPTER # 5. DESCRIPTION OF ENVIRONMENT**

### **5.1 GENERAL**

This chapter describes the baseline conditions, which cover the existing physical, ecological, and socio-economic environment of the Project Area as well as the Study Area. Information on these aspects has been derived from the desk study of available data, field visits to the Project/Study Area and information obtained through detailed consultation with the Government departments and other agencies.

### **5.2 PHYSICAL RESOURCES**

The project area is located in Nowshera Virkan Tehsil of District Gujranwala, Punjab, which is a prominent agricultural and semi-urban district of central Punjab. Gujranwala is well known for its industrial strength, fertile agricultural land, and dense population. The district is a major contributor to Punjab's agro-economy and is also famous for its cottage industries, engineering goods, ceramics, and handicrafts.

Nowshera Virkan itself is predominantly agricultural and peri-urban in nature, with large stretches of farmland interspersed with small towns and villages. It forms part of the fertile Rachna Doab, located between the Chenab and Ravi rivers, which makes it one of the most productive agricultural zones in Pakistan. The total area of Nowshera Virkan Tehsil is about 865 square kilometers, with an estimated population of around 620,000 persons (2023 estimates)

### **5.3 Population Trends**

The population has increased significantly due to rural-to-urban migration, agricultural intensification, and small-scale industrial expansion. According to the 2017 census, Nowshera Virkan had a population of around 515,000, with a growth rate of approximately 2% per annum. If current growth trends continue, the population is expected to surpass 700,000 by 2035.

The settlement pattern in the tehsil is largely medium-density rural settlements, characterized by clustered housing around agricultural fields. The main bazaar areas, such as Nowshera Virkan town center, are relatively dense, while peripheral villages exhibit more dispersed housing patterns.

#### **5.3.1 LAND USE CHARACTERISTICS**

Land use in Nowshera Virkan is dominated by agriculture, with fertile alluvial plains producing wheat, rice, sugarcane, maize, and fodder crops. Rice, in particular, is a major

crop of the Gujranwala region, supported by canal irrigation and tube wells. Vegetables such as potatoes, cauliflower, and onion are cultivated for local and regional markets.

Industrial activity is limited compared to Gujranwala city but includes rice mills, poultry farms, small engineering workshops, and brick kilns. Land for residential purposes is expanding gradually, especially along main roads, where housing colonies and small markets are emerging. Forest cover is negligible, though tree plantations exist along canal banks, village peripheries, and roadside avenues.

### **5.3.2 GEOLOGY**

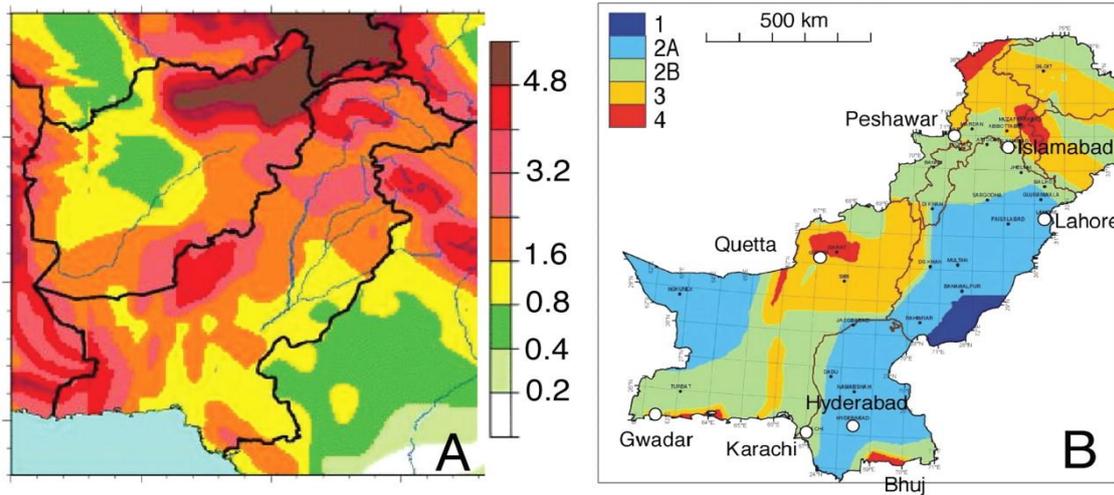
The geology of Nowshera Virkan, like much of central Punjab, consists of Quaternary alluvial deposits from the Indus River system. The soils are formed by sediments from the Chenab and Ravi rivers and are typically deep, fertile loams suitable for intensive agriculture. Groundwater is generally available at shallow depths (20–50 feet), though issues of salinity and waterlogging are observed in some pockets due to poor drainage and over-irrigation.

The climate is hot semi-arid, with extreme summer temperatures and relatively mild winters. The region is seismically stable, falling in a low-to-moderate seismic risk zone as per Geological Survey of Pakistan.

Air quality in the tehsil is generally acceptable in rural and agricultural zones. However, in areas near brick kilns, rice husk mills, and traffic corridors, localized air pollution is observed. Noise pollution is limited to occasional traffic and agricultural machinery.

### **5.3.3 TOPOGRAPHY**

Nowshera Virkan lies in the flat alluvial plains of Punjab, with elevations ranging from 200–220 meters above sea level. The terrain is nearly flat with a gentle slope to the south and southwest, facilitating natural drainage into canals and drains. The project site itself is flat farmland with no significant natural undulations.



**Figure 5-1: Seismic Zones of Pakistan (Geological Survey of Pakistan)**

### **5.3.4 SOIL**

Soils are mainly silting loam and clay loam, deposited by the Chenab and Ravi rivers over centuries. These soils are generally fertile, well-suited for wheat, rice, and sugarcane. However, in some low-lying areas, salinity and sodicity issues occur, which reduce crop productivity unless managed through gypsum treatment and improved drainage.

### **5.3.5 SURFACE WATER (RIVERS & CANALS)**

The project area is part of the Lower Chenab Canal system, which provides irrigation water across Nowshera Virkan. No major rivers flow directly through the tehsil, but the Chenab River lies to the northwest of the district and serves as the source of irrigation water. Several distributaries and minor canals run through the tehsil, ensuring a steady water supply.

Stormwater is managed through natural depressions and artificial drains. Small ponds and seasonal wetlands form during the monsoon, supporting localized biodiversity.

### **5.3.6 CLIMATE**

The climate of Nowshera Virkan is typical of central Punjab:

Summer (May–July): Very hot, with maximum temperatures reaching 44–46°C.

Winter (Dec–Feb) Mild to cold, with minimum temperatures dropping to 4–6°C.

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M/s Atlantic Gas Private Limited

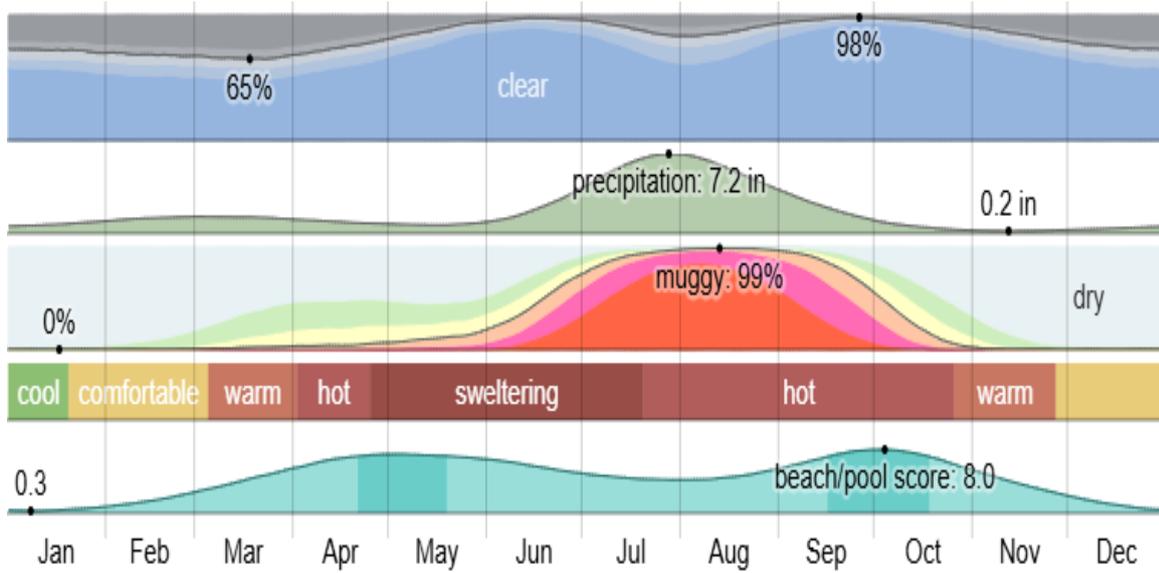


Figure 5-2: Climate in Gujranwala

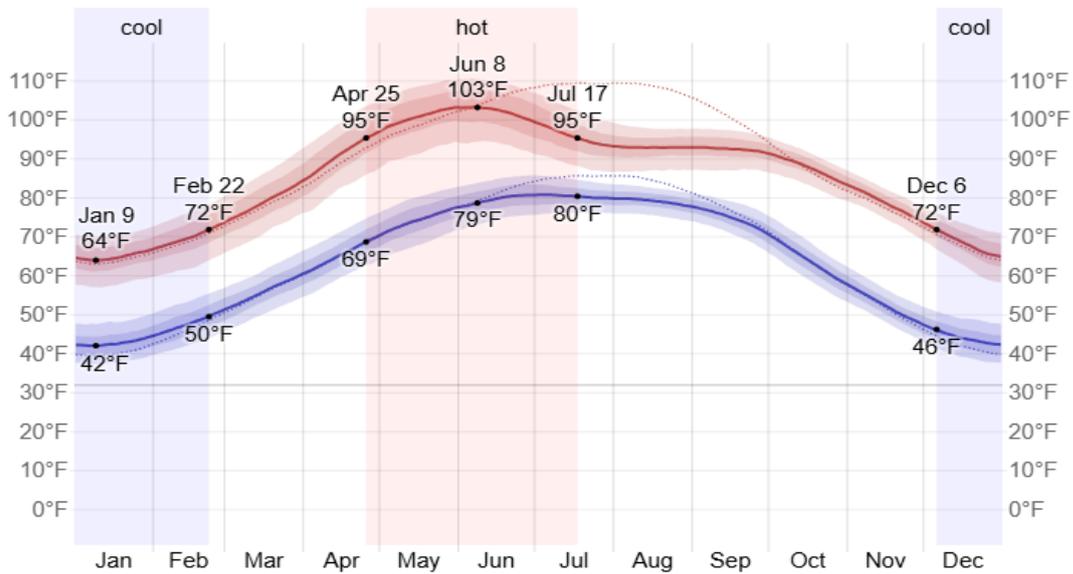
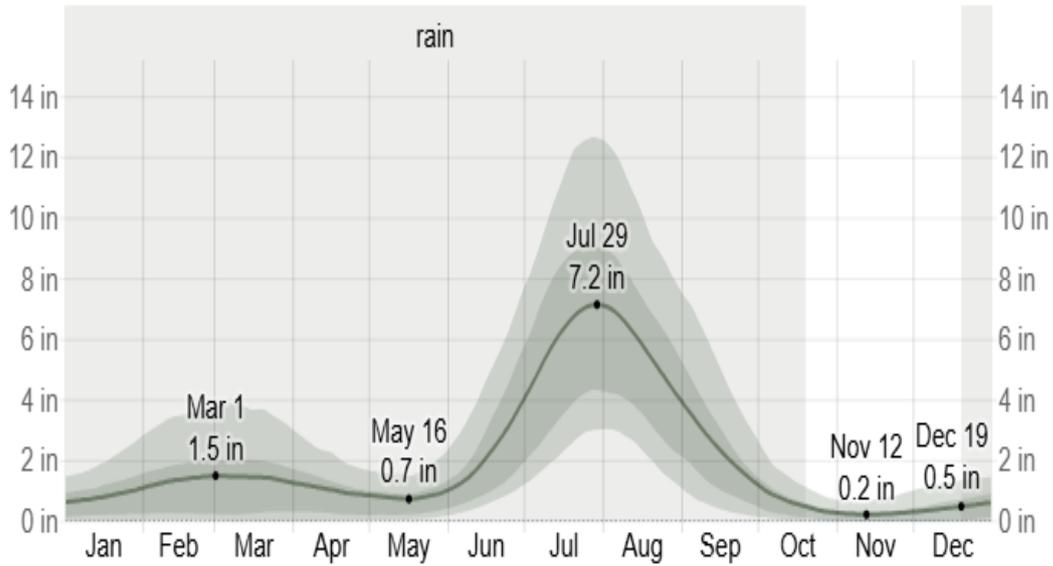


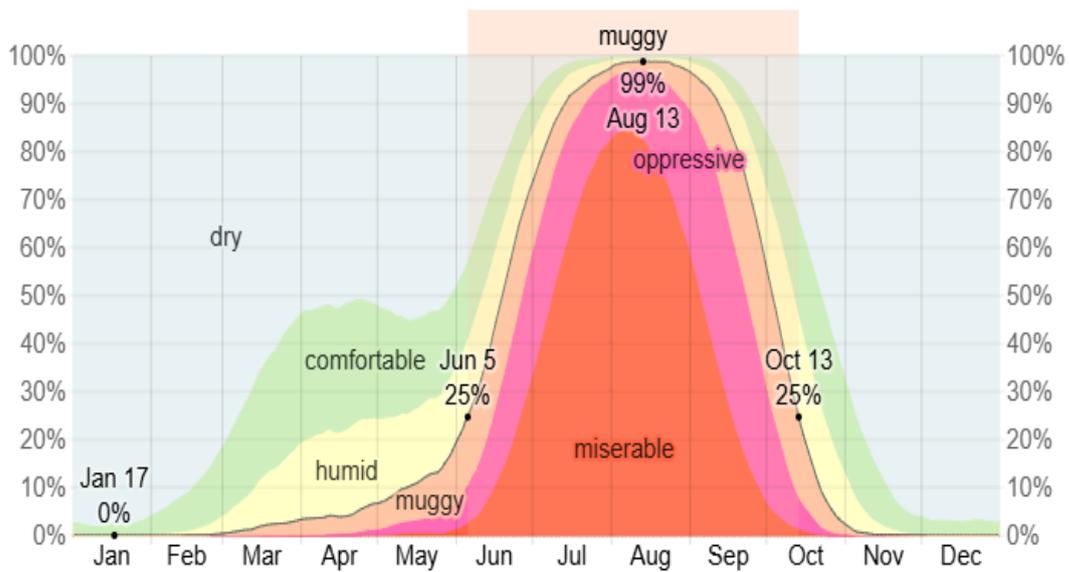
Figure 5-3: Average High and Low Temperature in Gujranwala

Rainfall: Annual rainfall averages 600–700 mm, mostly concentrated in the monsoon months (July–September)



**Figure 5-4: Average Monthly Rainfall in Gujranwala**

Humidity: Moderate to high during monsoon; low in dry summer months.



**Figure 5-5: Humidity Comfort Levels in Gujranwala**

Wind: Winds are generally light to moderate, with higher velocities in pre-monsoon months (May–June).

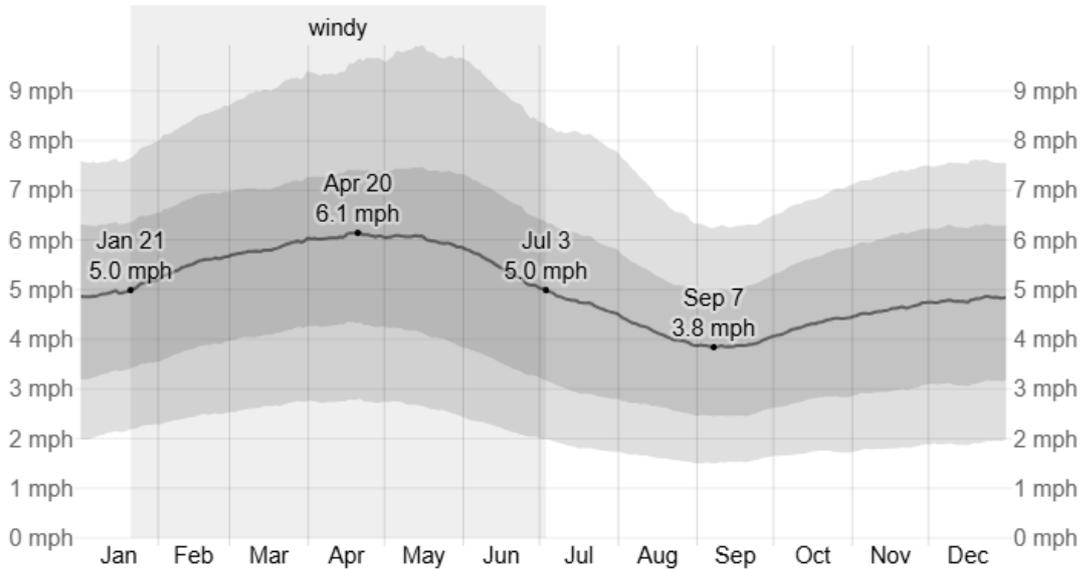


Figure 5-6: Average Wind Speed in Gujranwala

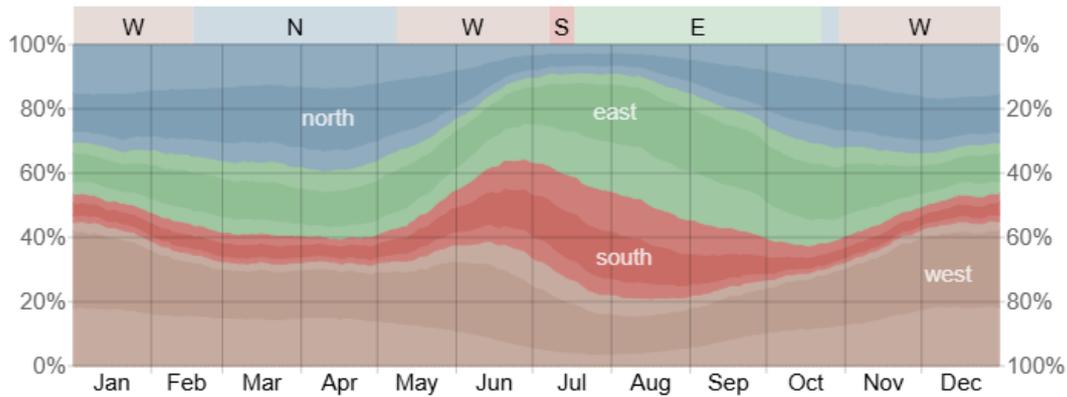


Figure 5-7: Wind Direction in Gujranwala

### 5.3.7 WATER RESOURCES

Water resources consist of:

**Surface water:** Canals and distributaries of the Lower Chenab Canal.

**Groundwater:** Widely used via tube wells for domestic and agricultural purposes. Depth is shallow, but water quality varies—some areas face issues of fluoride, salinity, and bacterial contamination

### 5.3.8 VEGETATION COVER AND TREES

The natural vegetation is sparse due to agriculture and urban expansion. Common trees include Shisham (*Dalbergia sissoo*), Kikar (*Acacia nilotica*), Eucalyptus, Neem, and Poplar, usually found along roads, canals, and fields. Grasses and shrubs dominate uncultivated patches.

## **5.4 SOCIO-ECONOMIC AND CULTURAL FEATURES**

Nowshera Virkan is a rural-agricultural economy with supplementary small-scale businesses. Most residents are farmers, tenants, or agricultural laborers. Rice milling, poultry farming, and brick kilns provide secondary employment.

Punjabi is the main spoken language, followed by Urdu. The literacy rate is lower than urban Gujranwala, though schools are present in most villages. Cultural life is shaped by agricultural cycles, religious festivals, and community traditions. Shrines and mosques are important social gathering places.

### **5.4.1 POPULATION COMMUNITIES AND EMPLOYMENT**

The majority of people are engaged in farming (rice, wheat, sugarcane). Employment in rice mills, poultry farms, mechanical workshops, and small businesses supplements livelihoods. Outmigration of young workers to cities and abroad (particularly Gulf countries) is also a significant trend.

### **5.4.2 EDUCATION**

Educational facilities include primary and secondary schools in most villages and higher secondary schools in larger settlements. Gujranwala city provides access to colleges and universities. Literacy levels are moderate, with higher male literacy compared to female literacy.

## **5.5 QUALITY OF LIFE VALUES**

### **5.5.1 PUBLIC HEALTH**

Health services are provided by Basic Health Units (BHUs), Rural Health Centers (RHCs), and private clinics. Gujranwala city houses tertiary hospitals. Common health issues include waterborne diseases, respiratory infections (due to smoke and dust), and vector-borne diseases during monsoon. Access to clean water and sanitation remains a challenge in some villages.

## **5.6 ENVIRONMENTAL PARAMETERS FOR MONITORING**

The environmental monitoring of parameters like ambient air quality, noise level and groundwater help us to analyze the prevailing environment conditions in and around the study area, and to protect it from any adverse activities due to the proposed Project implementation.

### **5.6.1 AIR QUALITY**

The environmental monitoring is conducted by EPA certified laboratory ESPAK and detailed results of ambient air quality monitoring have been also attached as Annexure-D.

### **5.6.2 NOISE LEVEL**

The environmental monitoring is conducted by EPA certified laboratory ESPAK and detailed results of ambient air quality monitoring have been also attached as Annexure-D.

### **5.6.3 DRINKING / GROUND WATER QUALITY**

The environmental monitoring is conducted by EPA certified laboratory ESPAK and detailed results of ambient air quality monitoring have been also attached as Annexure-D.

**CHAPTER 6: SCREENING OF  
ENVIRONMENTAL POTENTIAL  
IMPACTS & MITIGATION MEASURES**

## **CHAPTER # 6. SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES**

The following chapter describes the overall possible impacts of project on the physical, biological and socioeconomic environment because of operation phases and mitigation measures to minimize the significance of the possible impacts up to an acceptable level. The anticipated impacts related to project location, design, operational phases have been assessed and mitigation measures are provided accordingly.

### **6.1 IDENTIFICATION OF ALL IMPACTS:**

All the impacts related to the subject project due to the project location, during the operational phase have been identified and their mitigation measures have been suggested in Chapter # 4, Screening of potential environmental impacts and mitigation measures.

### **6.2 METHODOLOGIES FOR IMPACT IDENTIFICATION:**

The methodology adopted for impact evaluation includes the Project Impact Evaluation Matrix.

#### **6.2.1 PROJECT IMPACT EVALUATION MATRIX**

The impact Evaluation matrix was developed by placing project activities on the x-axis and different environmental parameters likely to be affected by the project actions grouped into categories i.e. Physical, Biological and Socio-Economic Environment. For the impact assessment, the project impact assessment matrix is used by dividing the project action into different phases operation phase. A project impact evaluation matrix is attached in the next section of this chapter.

The evaluation of impacts has been carried out on the basis of a developing matrix, in which impacts have been rated on the basis of their significance. For rating the impact's significance following criterion has been developed;

NA – Not Available

O – Insignificant (No or minimal impact)

LA – Low Adverse (Short-term, reversible, or less damage to the environment)

MA- Medium Adverse (Long-term reversible damage to the environment)

HA – High Adverse (severe irreversible adverse damage to the environment)

LB – Low Beneficial (Short-term benefits or less beneficial to the environment)

MB – Medium Beneficial (Long-term benefits to the environment)

HB – High Beneficial (Continuous benefits to the environment)

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M/s Atlantic Gas Private Limited

Environmental Component / Project Activities	Physical Environment							Biological Environment		Socio-Economic Environment							
	Topography & Drainage	Soil Quality	Landscape	Surface water quality	Ground water quality	Air quality	Noise	Flora	Fauna	Agricultural Land	Health & Safety	Disruption of Public Utilities	Employment	Population Disturbance	Social Disorder	Cultural Values	Traffic Management
Transportation of raw material/ products	MA	MA	MA	MA	O	MA	HA	LA	MA	O	HA	LA	B	MA	LA	O	HA
Production process	O	O	O	HA	MA	MA	MA	O	O	O	HA	HA	H B	O	O	LA	O
Washing process	O	O	O	LA	HA	O	O	LA	LA	LA	LA	HA	B	O	O	O	O
Operation of boilers	O	O	O	LA	HA	MA	MA	O	O	O	HA	HA	H B	O	O	O	O
Operation of generators	O	O	O	O	LA	HA	MA	O	O	O	HA	LA	H B	O	O	O	O
Water consumption	LA	O	LA	HA	HA	O	O	LA	LA	LA	LA	HA	B	LA	O	O	O
Wastewater generation	HA	MA	MA	MA	MA	LA	O	MA	MA	MA	HA	LA	B	LA	LA	O	O

Environmental Impact Assessment Report  
M/s Atlantic Gas Private Limited

Storage of raw materials/ dyes	O	O	O	O	O	O	O	O	O	O	LA	O	B	O	O	O	O
Social activities	O	O	LB	B	B	B	B	B	B	HB	HB	B	H B	HB	HB	HB	O
Public welfare	O	O	B	B	B	B	B	B	B	HB	HB	HB	H B	HB	HB	HB	LB
Economic activities	LB	O	B	B	B	B	B	B	B	B	HB	B	B	B	B	B	LB
Employment	O	O	O	O	O	O	O	O	O	O	B	B	H B	B	B	B	LB
Infrastructure improvement	LB	MB	HB	B	B	B	B	HB	LB	HB	HB	B	H B	B	B	B	B

Legend:

O=Negligible/No impacts      B=Beneficial      LA=Low Adverse  
MA=Medium Adverse      HA=High Adverse

### **6.2.2 IMPACT ANALYSIS AND PREDICTION:**

In order to evaluate the socioeconomic and environmental impacts, filed surveys are extremely essential. In addition to the surveys at the preliminary stage, consultation with the community and their active participation plays a vital role in successful implementation of the project. For the impact analysis and predictions following methods were adopted:

### **6.2.3 CONSULTATIONS/ CASE STUDIES:**

To study the impacts of the project on physical and biological environment, site visits were conducted by the environmental practitioners and experts and possible physical and biological impacts which may arise due to the subject project were identified through consultations and case studies and their mitigation measures were suggested accordingly.

### **6.2.4 MEETINGS:**

For the identification of the social impacts of the project, meetings and group discussions were held with the local people, stakeholders, nearby residents and passerby because social acceptability of the project and the area is a key to success. Consultation with the stakeholders is a tool for managing two-way communication between the project proponent and the affected public. Its goal is to improve decision making and built understanding by actively involving individuals, groups and organizations, which have stake in the project. This involvement increases project's long-term viability and enhances its benefits to locally affected people and other stakeholders.

To identify the different types of stakeholders and ascertain their perceptions about the project, an Environmental Impact Assessment was conducted. Informal group discussions were also held as an additional tool for obtaining feedback from the stakeholders that are being discussed in the following.

The EIA team carried out public consultations at various locations around the Project Site. The stakeholder's consultation during this phase of the work targeted the project area, administrative and private offices, Govt. offices, shops, etc. near the Project area:

- Selection of the stakeholders for consultation, reconnaissance of the project site and initial discussions with the neighboring factory workers, villagers, shopkeepers, drivers etc.

- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

### **6.2.5 CHARACTERISTICS OF IMPACTS**

The following impacts related to the location of the industrial unit should be identified to avoid the siting of the industrial estate in sensitive, difficult, or unsafe areas:

#### **IMPACT:**

#### **DISPLACEMENT OF EXISTING LAND USE AND OTHER RESOURCES:**

### **6.3 IMPACT ASSESSMENT CRITERIA**

The impacts were assessed in the light of the criteria given as under: -

- Magnitude or degree of impact
- Time and duration of impact
- Likelihood of impact occurrence
- Sensitivity of impact
- Risk related to impact.

#### **6.3.1 POTENTIAL POSITIVE IMPACTS**

The project is envisaged to have followed major positive impacts;

#### **EMPLOYMENT OPPORTUNITIES:**

Construction of proposed unit by M/S Atlantic Gas Private Limited will help in generating new jobs for the local population. The requirement of Managers, Engineers, Workers, technicians, skilled and unskilled labor etc. will generate employment opportunities. It is estimated about 25-30 persons will be employed during operational phase and about 18-20 persons will work during construction phase. Hence, there is large number of employment opportunities especially for the locals of the district.

#### **INCREASE IN BUSINESS:**

With the influx of laborers for the proposed project, there will be more opportunities for small scale business such as small food cafes etc.

#### **IMPROVED INFRASTRUCTURE:**

Construction of M/S Atlantic Gas Private Limited will improve the infrastructure of the area as proponent has incorporated aesthetic values and regeneration of site in its planning stage.

### 6.3.2 ECONOMIC BENEFITS:

Construction of M/S Atlantic Gas Private Limited is a major working entity in the country; it is a great investment for the economy of our country. In the long run it will positively impact not only the local population but also the economy of Pakistan.

### 6.3.3 POTENTIAL NEGATIVE IMPACTS

#### TYPES OF NEGATIVE IMPACTS MINOR IMPACTS

These are of minor intensity. For mitigation of the minor impacts routine and limited actions are required.

#### MODERATE IMPACTS

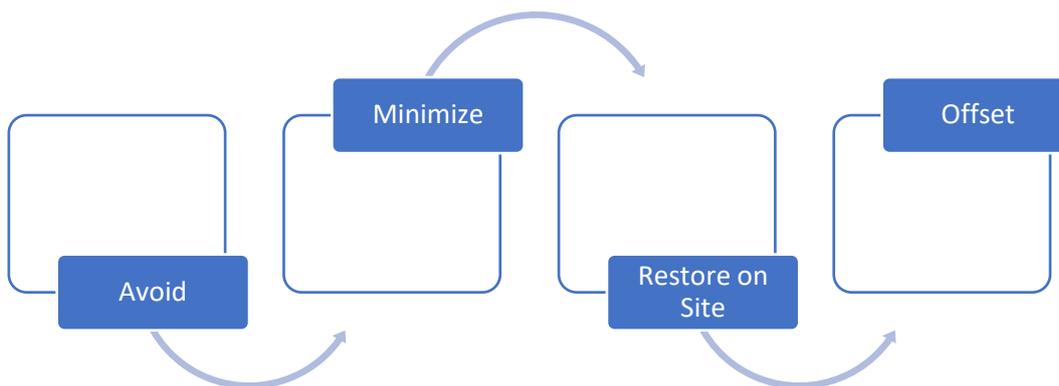
These impacts need specific and additional mitigation measures.

#### MAJOR IMPACTS

These impacts have severe adverse impact. These are intolerable. All possible preventive and multiple control measures are adopted to minimize their intensity and duration.

## 6.4 MITIGATION ASSESSMENT CRITERIA

The Mitigation Hierarchy establishes a structure to guide development and application of measures to mitigate impacts on environmental values and associated components. The term “mitigation” applies to four steps, or levels, in the mitigation hierarchy:



#### **6.4.1 GENERAL PRINCIPLES**

- Maintaining the integrity and natural functions and processes of ecosystems, and the resilience of ecosystems, is prerequisite to sustainable use of natural resources, and essential to maintaining ecosystem goods and services over time.
- The mitigation hierarchy is applied in order of priority as follows: a. Avoid b. Minimize c. Restore On-Site d. Offset (Off-Site or On-Site)
- Generally, the “higher” the priority of the environmental value and associated component, the more protective the mitigation measures.
- For an action or measure to be considered “mitigation”, a party must accept responsibility for implementation of appropriate mitigation measures, and there must be certainty that the mitigation measures will be carried out.
- Implementing mitigation measures can help resolve issues that may delay or prevent a proposed project or activity.

##### **6.4.1.1 GENERAL CONSIDERATIONS**

- Which environmental values and associated components will be impacted by the proposed project or activity? (This will be determined from the output of the environmental impact assessment, i.e., the Environmental Impact Assessment and Mitigation Plan)
- Have the criteria been used to determine relative priorities among environmental values and associated components?
- Have mitigation measures for impacts on environmental values and associated components, at all scales, been considered?
- What is the current condition of each environmental value and associated component actually present within the footprint and area of influence of the proposed project or activity?
- Can impacts on one or more environmental values or associated components be more fully mitigated than impacts on other environmental values and associated components?
- Are there multiple environmental values and associated components with conflicting management needs and potential conflicts that need to be considered?
- Is sound guidance available and being used, e.g., are best management practices (BMPs) and guidelines available for affected environmental values and associated components?
- Is there opportunity to collaborate with other proponents that may have interest in overlapping mitigation measures?

## 6.5 IMPACT SIGNIFICANCE

### 6.5.1 ECOLOGICAL IMPORTANCE NATURAL VEGETATION

Project activities do not impose any potential impact on the area's natural vegetation and plantation.

**ASSESSMENT OF IMPACT:** A significant impact will be interpreted if unnecessary or excessive removal and burning of plants for fuel wood is observed. In case of subject project, no tree cutting will be required for the construction of the subject project.

**Nature of impact:** Direct

**Duration:** long term

**Timing:** construction phase

**Reversibility:** irreversible

**Likelihood:** moderate

**Consequences:** Mild, as no rare plant species are not present in the project area.

**Impact significance:** significant

#### **MITIGATION MEASURES:**

The following mitigation measures will reduce any impact on vegetation:

- Do not park vehicles on green belts/ grass
- Unnecessary damage to vegetation will strictly be avoided.
- Proponent will plant trees and other species after construction phase

**RESIDUAL IMPACT:** Given the current state of the vegetation, and proper implementation of the proposed mitigation measures, slightly significant residual impact on the natural vegetation of the area is anticipated.

### 6.5.2 FAUNA

The fauna including wildlife species do not exist at the project site.

**Nature of impact:** Direct

**Duration:** short term

**Timing:** construction phase

**Reversibility:** not applicable

**Likelihood:** low

**Consequences:** Nil, as no rare plant species are not present in the areas.

**Impact significance:** not significant

**Residual Impact:** Given the current state of the fauna there is no significant residual impact on the wild life of the area.

### **6.5.3 SOCIAL IMPORTANCE**

Following parameters were adapted for the assessment of the well-being of the poor people near the project site that are used to assess the social, economic, and cultural impacts of the project.

#### **6.5.3.1 INCONVENIENCE DUE TO CONSTRUCTION VEHICLES:**

During the construction period a minor impact may be the movement of vehicles from the main road to the proposed plant boundary; it may affect the traffic on other roads and may cause minor annoyances to the residents and other industrialists of the area. The transportation of heavy materials and equipment is likely to damage the existing roads if they were used for the transportation of heavy machinery.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** construction phase

**Reversibility:** reversible

**Likelihood:** low

**Consequences:** low, as it links the Sheikhpura Gujranwala Motorway and vehicles will rarely use the sub roads.

**Impact significance:** slightly significant

#### **MITIGATION MEASURES:**

Efforts should also be made to discuss traffic conditions so that regular traffic is not disturbed. Transporters engaged for the project would be forced to adhere to the load specifications of the access road. No overloading would be allowed in any case.

### **6.5.4 CULTURAL ISSUES**

Induction of outside workers in the Contractor's labor may cause cultural issues with the local community as the local community is very sensitive about their cultural values. Also, theft problems to the local community may arise by the labor force and vice versa.

**MITIGATION MEASURES:**

Good relations with the local communities will be promoted by encouraging contractor to provide opportunities for skilled and unskilled employment to the locals, as well as on-the-job training in construction for young people. Project manager will restrict his staff to mix with the locals to avoid any social problem. Contractor will keep the copies of Computerized National Identity Cards (CNIC) of his workers and will warn them not to involve in any theft activities. And if anyone would involve, he will have to pay heavy penalty. Similarly, at the time of employment contractor has to take care that the workers should be of good repute. The contractor camp will be properly fenced and main gate will be locked at night with a security guard to check the theft issues. Contractor will also be the responsible for the sensitivity towards the local customs and traditions.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** construction phase

**Reversibility:** reversible

**Likelihood:** low

**Consequences:** low, if project proponent implements mitigation measure, its impact will be low

**Impact significance:** slightly significant

**6.5.5 ACCIDENT RISKS**

Unmonitored construction activities may create an accident risk for the local residents particularly children and labor force.

**MITIGATION MEASURES:**

Contractor must have first aid kits along with the medical officer in the field if a minor injury takes place, but for an unfortunate accident service of nearby hospitals will be availed. Routine medical check-ups of all the field staff including unskilled labor need to be conducted by a qualified doctor. Training of the workers should be arranged regarding safety procedures, environmental awareness, equipping all construction workers with PPEs, safety boots, safety helmets, ear plugs, gloves and protective masks. Monitoring must be carried out to check for the sustainable use of PPEs.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** construction phase

**Reversibility:** not applicable

**Likelihood:** moderate

**Consequences:** moderate, as complete trainings and mitigation measure have been planned.

**Impact significance:** significant

### **6.5.6 PRIVACY ISSUES**

Disturbance may happen to the privacy of women residing in the work area when workers will work at height.

**MITIGATION MEASURES:** Contractor must take care for the privacy of residents, especially women near the working area.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** construction phase

**Reversibility:** reversible

**Likelihood:** low **Consequences:** low, as contractor will take care of the matter

**Impact significance:** slightly significant

#### **SHARING OF RESOURCES:**

During the construction and operational phase of the project, workers will share the common resources like potable water, fuel, wood. It may create conflicts between work force and local population.

#### **MITIGATION MEASURES:**

The contractor will be required to maintain a close friendly relationship with the local communities to ensure that there may not be any conflict related to common resources utilization. He must get permission of the local population before using their common sources of water and other resources.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** construction phase

**Reversibility:** reversible

**Likelihood:** low

**Consequences:** low, if the terms & conditions will be followed and mitigation measures have been employed

**Impact significance:** significant

### **6.5.7 NOISE PROBLEMS**

Residents of the area and neighbors may face the problems of noise during the construction and operations phase

**MITIGATION MEASURES:** Large noise generating activities should be carried out in fixed hours. The timing will be known to all the people in 500 m radius of the site.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** construction phase

**Reversibility:** reversible

**Likelihood:** Moderate

**Consequences:** Moderate, project contractor will follow the safety guidelines & NEQS

**Impact significance:** significant

### **6.5.8 MOBILIZATION ISSUES**

During the construction phase, the general mobility of the local residents and their livestock in and around the study area is likely to be hindered.

**MITIGATION MEASURES:** It will be the responsibility of project contractor and drivers to follow the speed limits in the area.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** construction phase

**Reversibility:** reversible

**Likelihood:** low

**Consequences:** low, as it links the main Lahore-Sargodha Motorway and vehicles will rarely use the sub roads

**Impact significance:** slightly significant

### **6.5.9 HEALTH**

People from the project area regularly travel to other cities, and thus cannot be considered isolated from the rest of the country. They are regularly exposed to illnesses common to urban populations, and have similar levels of immunity. The project is therefore very unlikely to lead to an epidemic of any sort among local communities.

**MITIGATION MEASURES:** Regular medical check-ups of all the workers need to be conducted to ensure the health of workers and local population.

**Nature of impact:** Indirect

**Duration:** Long term

**Timing:** construction / operation phase

**Reversibility:** reversible

**Likelihood:** moderate

**Consequences:** low to moderate, it may cause disturbance or spread of disease in the area if mitigation measure will not follow

**Impact significance:** significant

### **6.5.10 SAFETY:**

Project activities could become a hazard as it is located in populated area local people, especially children, are likely to gather around to watch the activity. The other safety issue is that of traffic, especially along access roads close to settlements.

To reduce the hazards, the following mitigation measures will be implemented:

- Local people will be informed in advance when work is about to start in an area.
- This may result in people keeping young children away from work areas.
- Machinery will never be left unattended.
- Safe driving practices will be adopted, particularly while passing through settlements.

**Nature of impact:** Direct

**Duration:** long term

**Timing:** construction / operation phase

**Reversibility:** irreversible

**Likelihood:** moderate to high

**Consequences:** moderate if all safety measure will be taken care

**Impact significance:** Significant

#### **ENVIRONMENTAL STANDARDS TOPOGRAPHY:**

The project will not change the topography of the area as proponent committed to sustainable development of the proposed project. The infrastructure of the area will be maintained after the construction activities.

**Residual Impact:** The residual impact of project activities on the topography of the area is expected to be insignificant. The residual effects are summarized below:

**Nature of impact:** direct

**Timing:** construction Phase

**Duration:** during construction activities

**Likelihood:** Nil

**Consequences:** no change

**Impact significance:** Not significant

**MITIGATION MEASURES:** The project design should include measures to maintain the project landscape that matched the pre project natural green features achievable through extensive plantation. Project activities must be executed in a way it will not harm naturally available resources.

#### **6.5.11 LAND ACQUISITION RESETTLEMENT**

One of the major impacts includes acquisition of land from the land owners and the resulting displacement of their families and disturbances in the livelihood of the affected persons (AP) in the project area. But present project land is owned by the father of the proponent who has granted permission for the lease ownership of M/S Atlantic Gas Private Limited and do not involve any type of land acquisition and resettlement activity.

**Residual Impact:** The residual impact of project activities for the land acquisition & resettlement of the area is expected to be insignificant. The residual effects are summarized below:

**Nature of impact:** direct

**Timing:** Planning stage

**Duration:** not applicable

**Likelihood:** Nil

**Consequences:** no change

**Impact significance:** Not significant

**Mitigation measures:** If any resettlement involve, proponent must consult the affected persons and incorporate their interests and demands.

#### **6.5.12 CHANGES IN LAND USE**

The current land use of the area is mainly Agricultural. Project is expected to increase land use value particularly near the main road creating easy economic and employment opportunities for locals.

**Residual Impact:** The residual impact of project activities on land use of the area is expected to be insignificant. The residual effects are summarized below:

**Nature of impact:** direct

**Timing:** construction phase

**Duration:** not applicable

**Likelihood:** Nil

**Consequences:** no change

**Impact significance:** Not significant

**MITIGATION MEASURES:** The impact of change in land use must incorporate in planning stage so that it may not cause any hindrance during the constructional phase.

#### **SOLID WASTE/ SLUDGE MANAGEMENT:**

Proper solid waste management system is necessary for the prompt, timely and efficient disposal of solid waste & sludge for the reduction of its impacts. Impacts due to solid waste & sludge are expected to be temporary and minor in nature.

**Nature of impact:** Direct

**Duration:** Short term

**Timing:** operation/ construction

**Reversibility:** Not applicable

**Likelihood:** Low (unlikely) as mitigation measures will ensure that Solid waste management will be efficient

**Consequences:** Mild, as it will be removed from site within few hours

**Impact significance:** Low, based upon low likelihood and mild to moderate consequence.

#### **MITIGATION MEASURES:**

- Planning of solid waste disposal sites with reasonable distance from the human settlements
- A minimum distance of 1 km should be maintained between the solid waste disposal site and nearest human settlement
- Devise plan & develop guidelines for the safe handling, storage & disposal of Sludge must not be placed at the site after cleaning of wastewater treatment tank
- PPEs are strongly recommended for workers for the handling of sludge

**Residual Impact:** After implementing the mitigation measures listed above, the residual impact of the solid waste/ sludge is expected to be insignificant.

#### **AIR QUALITY POTENTIAL IMPACT:**

Air emissions from project-related activities are likely to include:

- Dust raised on dirt tracks by project-related vehicles.
- Combustion products (nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide, and volatile organic compounds) from vehicles used for project-related activities

## 6.6 ASSESSMENT OF IMPACT

### 6.6.1 DUST EMISSIONS

Dust emissions caused by vehicular traffic on dirt track are an important concern, primarily when such traffic passes near community settlements. Dust emissions cause the amount of particulate matter in the air to increase, and thus become a health concern. Dust clouds also reduce road visibility, creating a traffic hazard.

### 6.6.2 GASEOUS EMISSIONS

Emissions produced by vehicles and equipment will be similar to those produced by generators in terms of the resulting pollutants (SO<sub>2</sub>, NO<sub>x</sub>, PM, etc.). However, the extent to which they are produced will be kept considerably lower, since much smaller engines are used in vehicles and construction machinery.

**Nature of impact:** Direct

**Duration:** long term

**Timing:** operation/ construction

**Reversibility:** irreversible

**Likelihood:** moderate as mitigation measures will ensure that air pollution remains within acceptable limits.

**Consequences:** moderate, as pollutant levels in the ambient air will be well within acceptable limits.

**Impact significance:** moderate, based upon low likelihood and mild to moderate consequence.

### **MITIGATION MEASURES**

- None of the potential effects discussed above are expected to exceed acceptable limits.
- The mitigation measures given below will further reduce their impact, and ensure that they remain within acceptable limits.
- All equipment and vehicles used during the project will be properly tuned and maintained in good working condition in order to minimize exhaust emissions.
- Vehicle speed will be reduced on track passing through or close to shops
- Imposing speed limits and encouraging more efficient journey management will reduce the dust emissions produced by vehicular traffic.
- Water will be sprinkled where necessary to contain dust emissions.

- Management will make sure process is environmentally friendly

**Residual Impact:** After implementing the mitigation measures listed above, the residual impact of the proposed activities on ambient air quality is expected to be low.

### 6.6.3 NOISE LEVEL

Noise may be a major concern during the construction/ operation phase. It can be generated from the machinery used for construction and operations. Generators are another source of noise pollution.

**Nature of impact:** Direct

**Duration:** long term

**Timing:** operation/ construction

**Reversibility:** Not applicable

**Likelihood:** moderate

**Consequences:** slightly significant, if above mentioned mitigation measure will be strictly followed

**Impact significance:** moderate, based upon low likelihood and mild to moderate consequence.

#### **MITIGATION MEASURES:**

- Keep the traffic load aligned and minimum during working hours of project
- Machinery and vehicles must be well tuned and maintained o Impose the limits on unnecessary use of horns
- Safety signs must be displayed and public & drivers must be well aware of them o Do not work in night time

**Residual Impact:** After implementing the mitigation measures listed above, the residual impact of the noise level will be slightly significant.

#### CONCLUSION

Management of M/S Atlantic Gas Private Limited has to achieve the following goals.

- Identification of regulatory requirements that apply to the project activities in the context of environmental protection.
- Identification of the environmental features of the project area and the likely impact of the project on the environment,

- Recommendation of appropriate mitigation measures that management will incorporate into the project implementation to minimize all adverse environmental impacts.

Baseline environmental and socioeconomic information collection from a variety of sources, including field surveys.

The impacts of project in area will be insignificant, provided the generic mitigation measures proposed in this report are implemented. After assessing the project activities and investigating the project area, it is concluded that, if the activities are undertaken in this report, and the recommended mitigation and environmental management measures are adopted, the project will not result in any long-term or significant impacts on the local community or the environment.

#### **6.7 REPLACEMENT, RELOCATION AND REHABILITATION:**

M/S Atlantic Gas Private Limited will develop Restoration/ reclamation or tree plantation plan to restore the project area. Maximum Plantation will be done with native species within the building, along the boundary wall and along the road side if directed by EPA. Also, in-front of main area, horticulture plan will be formulated and area for this will be kept reserved.

**CHAPTER 7: ENVIRONMENT  
MANAGEMENT AND MONITORING  
PROGRAM**

## **CHAPTER # 7. ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM**

### **7.1 PURPOSE AND OBJECTIVES OF THE EMP:**

The primary objectives of the EMP are to:

- Facilitate the implementation of the mitigation measures identified in the EIA.
- Define the responsibilities of the project proponent.
- Define a monitoring mechanism and identify monitoring parameters in order to:
- Ensure the complete implementation of all mitigation measures.
- Ensure the effectiveness of the mitigation measures.
- Provide a mechanism for taking timely action in the face of unanticipated environmental situations.
- Identify training requirements at various levels.

### **7.2 MANAGEMENT APPROACH:**

The overall responsibility for compliance with the environmental management plan rests with the project proponent.

A certain degree of redundancy is inevitable across all management levels, but this is in order to ensure that compliance with the environmental management plan is crosschecked.

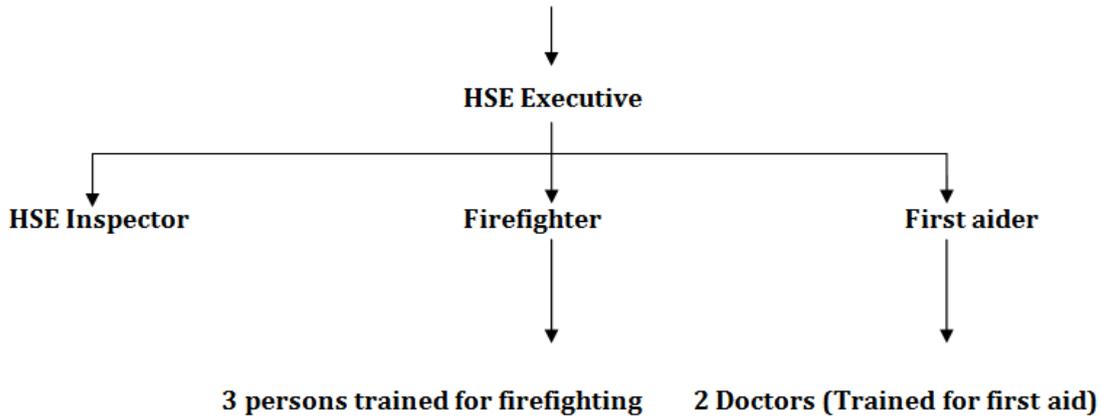
### **7.3 INSTITUTIONAL CAPACITY**

Following functionaries will be involved in the implementation of EMP:

- Project Proponent
- HSE/Project Manager
- In-Charge Administration
- Supervisor of project

### **7.4 SCHEDULE OF IMPLEMENTATION**

Training for the management and workers on environmental aspects of the project will be arranged on biannually basis during the operational phase of the project. It will be imparted by a team of experienced trainers.



**Figure 7-1: Institutional Capacity for the implementation of EMP**

Management will hire or appoint HSE officer before the initiation of work at the project site. HSE officer will be responsible for conducting the training of the labor, which will be organized either by the management of industry or by the contractor.

Following schedules of training will be implemented:

**Table 7-1: Training Program**

Sr. No.	Description of program	Personnel involved	Time/ duration
1)	General HSE Training	Trainers and whole production facility staff	Regularly as planned by HSE Manager
2)	Instrument use/ workplace specific items	Trainers and whole production facility staff	Regularly as planned by HSE Manager
3)	PPEs use and safe work practices at work site.	Trainers and whole production facility staff	Regularly as planned by HSE Manager
4)	Reporting and investigating accidents/ incidents	Trainers and whole production facility staff	Regularly as planned by HSE Manager

5)	Emergency procedures	Trainers and whole production facility staff	Regularly as planned by HSE Manager
6)	Medical and first aid	Trainers and whole production facility staff	Regularly as planned by HSE Manager
7)	Health and safety promotion	Trainers and whole production facility staff	Regularly as planned by HSE Manager

In order to raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. HSE Manager should play a key role in this respect and arrange the training programs. HSE Manager will provide training to staff and workers about the best environmental management practices at the site and affective implementation of the EMMP. The training modules will include air, noise and water pollution monitoring, social awareness, Environmental Laws, National Environmental Quality Standards (PEQS), Usage of personal protection equipment, and health and safety related issues on the construction site.

The HSE Manager will train all workers & staff in basic sanitation and health care issues (e.g., how to avoid malaria, dengue and transmission of Sexually Transmitted Infections (STI) HIV/AIDS and in general health and safety matters, and on the specific hazards of their work. Training should also consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation.

HSE Manager will be responsible to conduct Training on regularly basis regarding health & safety, hygiene, firefighting and first aid.

## **7.5 TRAINING OF BUILDING CONTRACTOR**

Training of building contractor & workers will be the part of the TORs regarding the construction of the scheme. The provisions given in EIA Report Chapter 4 Screening of Potential Environmental Impacts & Their Mitigation Measures will be followed.

TORs will be including the training and submission of reports in the following area:

1. Handling of Machineries in a safe way
2. Use of PPEs

3. Maintenance of vehicles and submission of Environmental Monitoring Reports
4. Maintenance of Water Consumption records
5. Testing of water and waste water and submission of Environmental Monitoring Reports
6. Placement of safety signs/boards during construction
7. Sprinkling of water on the roads and dusty tracks
8. Monitoring of generator emissions

Training regarding all other aspects of HSE will be ensured by the contractor during the construction phase.

## **7.6 PROPOSED ENVIRONMENTAL MONITORING**

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Monitoring for following Environmental Parameters is recommended:

### **7.6.1 AMBIENT AIR**

Monitoring for ambient air should be conducted during operational activities of the project and report should be submitted to EPA Punjab.

### **7.6.2 NOISE**

Regular monitoring for noise level should be maintained periodically during operation phases of the project and report should be submitted to EPA Punjab as per rule.

### **7.6.3 WATER QUALITY**

Regular monitoring of water quality should be conducted during operational phases of the project and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

Recommendation: Environmental Monitoring data log book should be maintained by the project proponent.

## **7.7 RESPONSIBILITY OF EMP**

Overall responsibility for implementation of EMP is of project proponent. He has appointed an HSE/Project Manager of relevant qualification. HSE/Project Manager acts as Environmental Manager and will manage all HSE condition at the PEQS.

### 7.7.1 EQUIPMENT MAINTENANCE DETAIL

The subject project is the proposed construction of LPG Storage and Filling Plant by M/S Atlantic Gas Private Limited. The company will maintain the records for Health Safety & Environment and will hire HSE manager to check and deal with the HSE issues. The company shall maintain PPEs, medical facilities, firefighting Equipment's as fire buckets, fire hydrants and fire extinguishers and records for their periodic filings or replacement.

### 7.8 ENVIRONMENTAL BUDGET

The cost which is required to effectively implement the mitigation measures is important for the sustainability of the Project in operation stage of the Project.

Company has allocated the Environmental Budget annually for the Training, maintenance and management of Environment that will include filling and maintenance of equipment's, restoration, plantation, and availability of PPEs, strategic planning to cope with any emergency situation and formulate the disaster management plan to cope with natural disaster. Any equipment or devices failure or replacement will not be included in this budget.

HSE training	On regular basis
Maintenance and management of environment	On regular basis
Maintenance of equipment	On regular basis
Availability of PPEs	During production hours
Strategic planning to cope with any emergency	As per policy
Formulate the disaster management plan to cope with natural disaster	As per policy

Environmental Impact Assessment Report  
M/s Atlantic Gas Private Limited

**Table 7-2: ENVIRONMENTAL MANAGEMENT PLAN OF M/S ATLANTIC GAS PRIVATE LIMITED**

Sr. #	Aspects	Impact & Mitigations to be taken			
		Impacts	Mitigation measures Construction/Operation	Responsibility	Monitoring
<b>AMBIENT AIR QUALITY</b>					
1.	Air Quality	Production machinery Flue gas emissions from machinery and generators	Air quality monitoring is recommended on regular base  Open disposal and burning of solid waste in the premises of building should be strictly banned.  Pollution abatement technologies regarding air pollution will be adopted.  Emissions inspection and monitoring should be done on regular basis	HSE Department	Environmental Consultant/EPA PUNJAB
<b>NOISE &amp; VIBRATION</b>					
2.	Noise	The major sources of the noise are production related machinery.	Personal Protective Equipment PPEs including Ear muffs, Ear plugs and other noise abating equipment will be provided to the workers and other staff.	HSE department	Environmental Consultant/ EPA PUNJAB

Environmental Impact Assessment Report  
M/s Atlantic Gas Private Limited

		Noise from generators (if any)	Sound proof room should be built for generator (if any) to control the noise.		
<b>HEALTH AND SAFETY</b>					
3.	Health and safety	Health & safety issues of workers and nearby community	<p>Trainings of the workers is recommended for health &amp; safety, first aid and firefighting.</p> <p>Proponent must provide First aid facilities to workers in case of any injury or accident. Emergency Response Plan is attached as <b>Annexure-F</b>.</p> <p>Safe drinking water must be provided to workers, staff, and poor people of the area.</p> <p>Water consumption records should be maintained.</p> <p>Provision of Proper PPEs must be ensured at workplace.</p> <p>Assembly point and exit points must be available at workplace.</p> <p>Electric wires, D. Bs must be kept covered &amp; closed to avoid any electric hazards.</p> <p>Smoking or any drugs should be prohibited during</p>	HSE Department	Environmental Consultant/ EPA

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			<p>working hours or performing work.</p> <p>Safety signs &amp; boards will be placed at the time of construction activity.</p> <p>Security guards will be appointed at the construction site.</p>		
<b>WASTE WATER</b>					
4.	Waste water	<p>Domestic waste water.</p> <p>Minor wastewater from production activities.</p> <p>Spread of diseases, underground water contamination.</p>	<p>Domestic waste water is being drained out in nearby drain after treated in septic tank.</p> <p>Ensure the tank is situated at a distance that prevents any accidental runoff or overflow from contaminating the LPG storage area.</p>	HSE department	Environmental Consultant
<b>SOLID WASTE GENERATION</b>					
5.	Solid Waste Generation	<p>Aesthetic degradation, foul smell etc.</p> <p>Solid waste generation from the machinery installation and production activities, domestic and process sources</p>	<p>A solid waste management plan should be formulated to deal with the proper disposal of solid waste, supervised by HSE Manager.</p> <p>Waste segregation is recommended at the source.</p> <p>Industrial ecology practices will be adopted wherever</p>	HSE Department	Environmental Consultant/ EPA PUNJAB

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			<p>possible.</p> <p>7 R's of sustainability is recommended</p> <p>Hazardous waste should be disposed in separate bins and handed over to EPA approved contractors.</p> <p>Waste produced from building alteration/renovation should be sold to local market.</p>		
<b>ODOR</b>					
6.	Odor	Odor may produce from raw material and during product manufacturing	<p>Raw material should be covered to reduce odor</p> <p>Face masks must be provided to the workers and employees on production floor</p>	HSE Department	Environmental Consultant/ EPA PUNJAB
<b>ENERGY REQUIREMENT</b>					
7.	Energy requirement	Resource depletion	<p>Do not waste the energy/electricity when there is no need of it.</p> <p>Use energy efficient and ecofriendly equipment</p> <p>Use energy saving appliances</p> <p>Conduct and maintain records for energy audits</p> <p>Do not leave the appliances in running when there is no need</p>	HSE Department	Environmental Consultant/ EPA PUNJAB

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			It is recommended to save and conserve the energy and adopt energy efficient technologies in the factory.		
<b>SOCIO ECONOMIC IMPACTS</b>					
8.	Language	Change in cultural language	Maximum employment of Local people is recommended to preserve the local cultural language. It will help in communication with the local people to resolve any emerging issue near the project area	Proponent	NA
9.	Education	Change in social behavior and economic gains	School and colleges exist in the area. The project proponent will initiate an educational awareness program with the coordination of the local people.	Proponent	NGO survey
10	Health	Social performance of the individuals in the area	The project proponent will assist the local impacted community for the improvement of health services Health clinic must be established for the project workers.	Proponent	Proponent
11	Culture and norms of the area	Change in culture by the influx of nomadic people	Maximum local employment should be ensured to preserve the culture of the area	Proponent	NGO survey/Environmental Consultant
12	Sewage and waste	Diseases caused by improper	Subject project will uplift the economic status of the	Proponent/ local	NGO survey/

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	disposal	sanitation	nearest human settlements. Awareness program will be initiated regarding the disposal of waste.	NGO	Environmental Consultant
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**CHAPTER 8: STAKEHOLDER  
PARTICIPATION**

## **CHAPTER # 8. STAKEHOLDERS PARTICIPATION**

Social acceptability of the project and the area is a key to success. Consultation with the stakeholders is a tool for managing two-way communication between the project proponent and the affected public. Its goal is to improve decision making and built understanding by actively involving individuals, groups and organizations, which have stake in the project. This involvement increases project's long-term viability and enhances its benefits to locally affected people and other stakeholders.

In order to evaluate the socioeconomic and environmental impacts, filed surveys are extremely essential. In addition to the surveys at the preliminary stage, consultation with the community and their active participation plays a vital role in successful implementation of the project. To identify the different types of stakeholders and ascertain their perceptions about the project, an initial environmental examination was conducted. Informal group discussions were also held as an additional tool for obtaining feedback from the stakeholders that are being discussed in the following pages.

### **8.1 OBJECTIVES OF CONSULTATION**

Public consultation plays a vital role in studying the effects of the project on the stakeholders and in the successful implementation and execution of the proposed project. Public involvement is a compulsory feature of environmental assessment, which leads to better and more acceptable decision making. The objective of the consultation with stakeholders is to help verify the environmental and social issues that have been presumed to arise and to identify those which are not known or are unique to the construction of the proposed unit.

The important general objectives of the consultation process are:

- Information dissemination, education and liaison;
- Identification of problems and needs;
- Collaborative problem solving;
- Reaction, comment and feedback on proposed project;
- Documenting mitigation measures proposed by the stakeholders;

### **8.2 METHODOLOGY OF CONSULTATION:**

The EIA team carried out public consultations at various locations around the Project Site. The stakeholder's consultation during this phase of the work targeted the project area, administrative and private offices, Govt. offices, shops, etc. near the Project area:

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- Selection of the stakeholders for consultation, reconnaissance of the project site and initial discussions with the neighboring industry workers, villagers, shopkeepers, drivers etc.
- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

### **8.3 PROPONENT**

Possible impacts and mitigation measures related to the subject project were discussed with the project proponent and management. They assured to take all suggested mitigation measures to control any discrepancy arose by the project and to make the project environment friendly.

### **8.4 RESPONSIBLE AUTHORITY**

Management of M/S Atlantic Gas Private Limited is the responsible authority to take all measures prior to start the activity.

### **8.5 OTHER DEPARTMENTS AND AGENCIES**

For the impact analysis detailed meetings were held with the management of M/S Atlantic Gas Private Limited, local community, education institutes, health institutes and hospitals. Issues were discussed that may affect the environment and also the implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

Scoping sessions, focused group discussion and way side consultations were held with the relevant stakeholders in the area. The purpose of such consultations is to obtain the feedback from the relevant persons.

### **8.6 AFFECTED & WIDER COMMUNITY**

There is no affected community present in the radius of our study area. ESPAK team has consulted with the inhabitants of the different villages. They provided positive remarks regarding the subject project and in the favor of the subject activity for the proposed plant. Stakeholder's participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts.

**Table 8-1: Categories of stakeholders interviewed in the project area:**

<b>Sr. No.</b>	<b>Stakeholder Category</b>
1.	Neighboring factory workers.

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2.	Nearby residents
3.	Shopkeepers.
4.	Drivers.

In addition to the above categories, authorities of administrative and educational institutions, commerce and Investment Department (C&I), Environmental Protection Department (EPD) etc. were also consulted for more effective participation and appraisal of the proposed project.

**8.6.1.1 ISSUES DISCUSSED:**

Following issues were discussed during the stakeholder consultation:

- Overall activities of the project;
- Possible impacts on natural vegetation, air, land and properties;
- Possible mitigation measures;
- Benefits of the project specifically for the local people.

**8.6.2 SAMPLE SIZE**

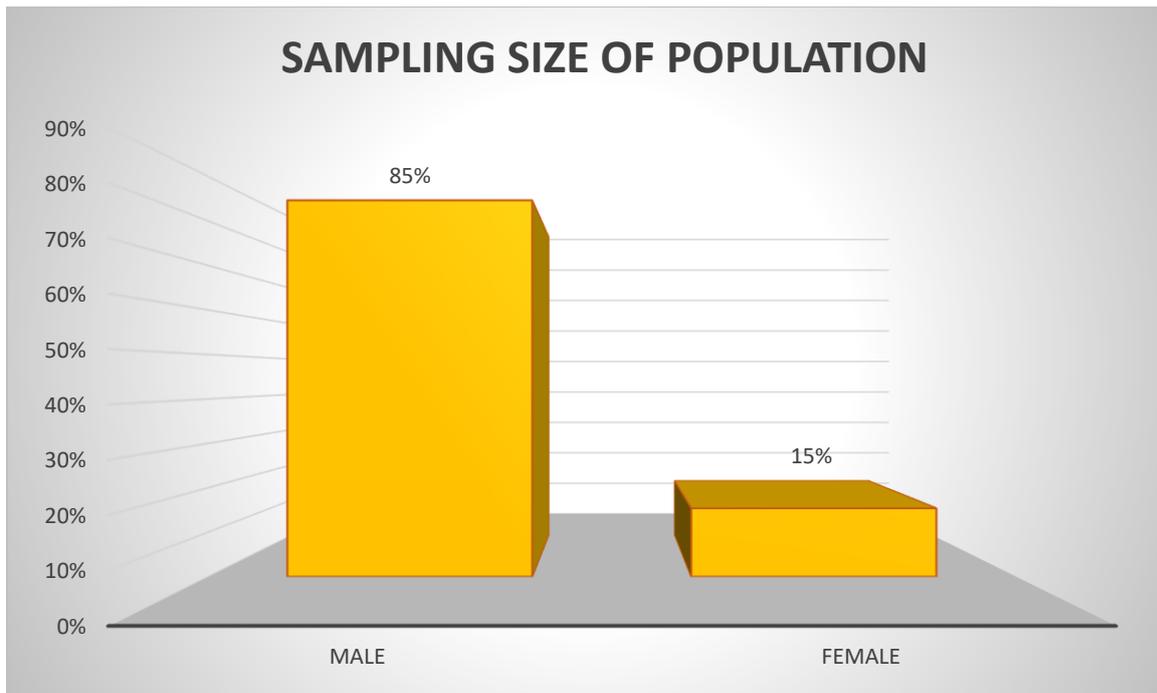
Sample size of 30 respondents was selected by the Team of consultants for conducting the socioeconomic survey. Women were also consulted for the said survey; some of their names are mentioned in the above list of respondents while most of them were not willing to give personal information.

**8.6.3 STATISTICAL ANALYSIS**

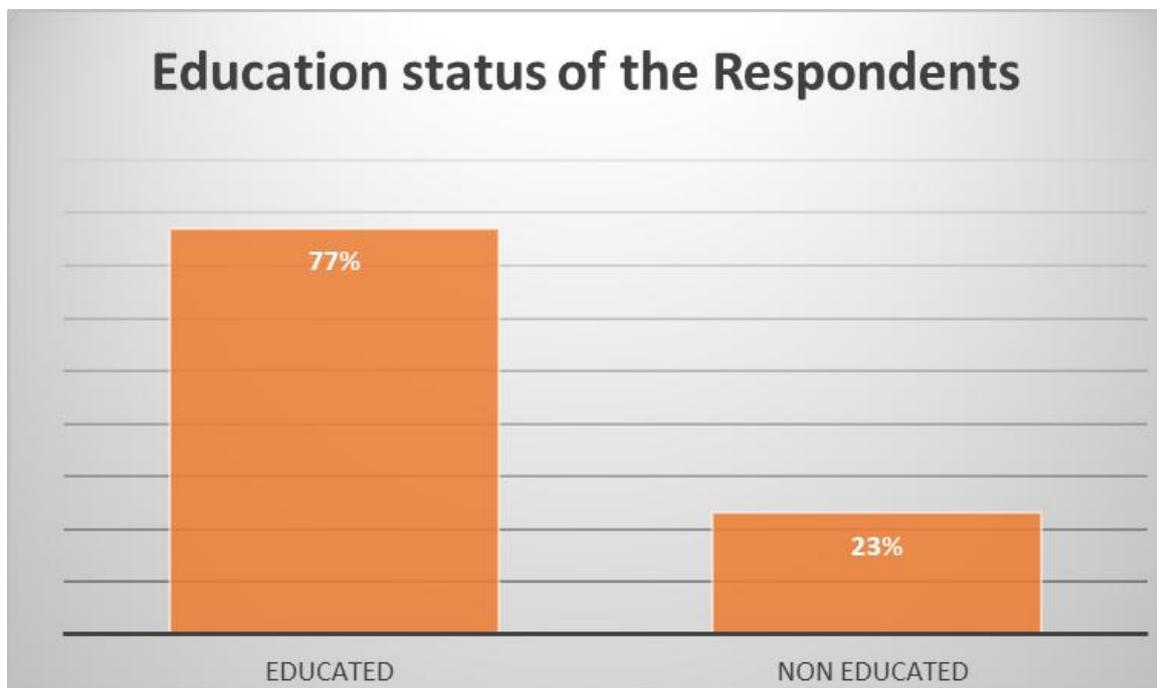
SPSS 19.0 has been used for the statistical analysis of the data collected during the visit of study site area through questionnaires.

Graphical representation of analysis is given below:

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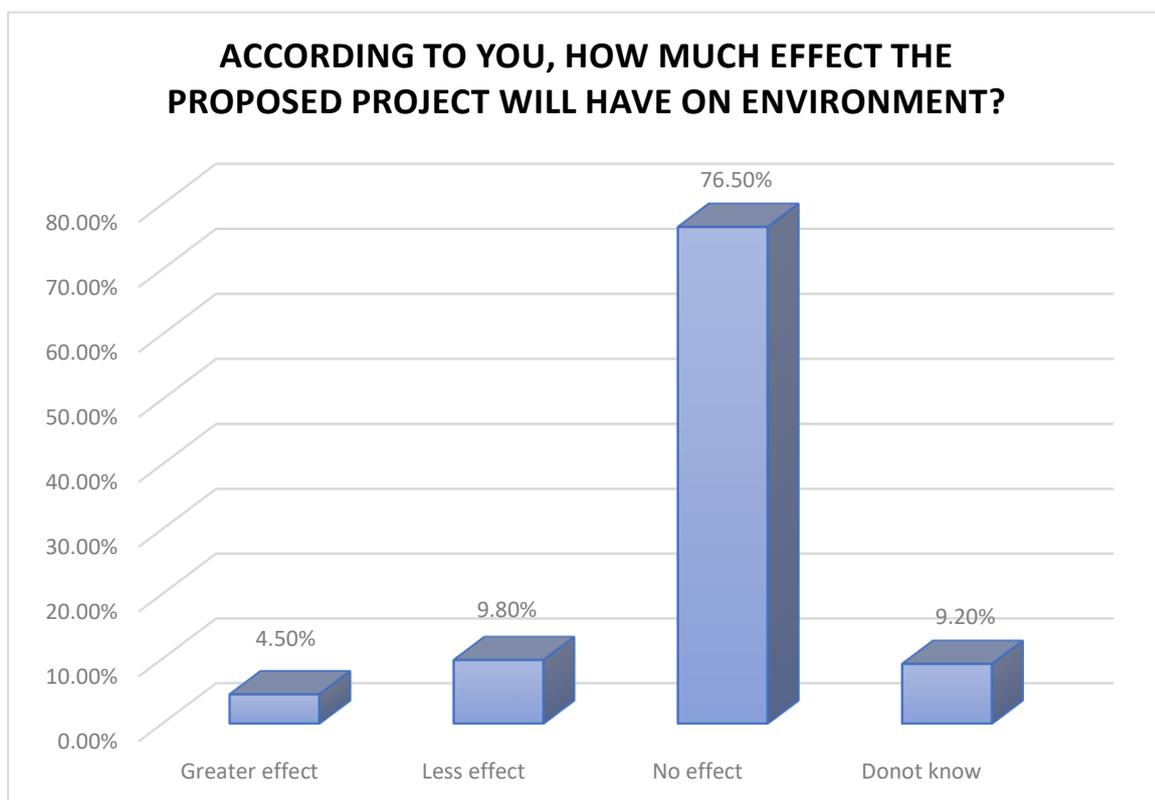
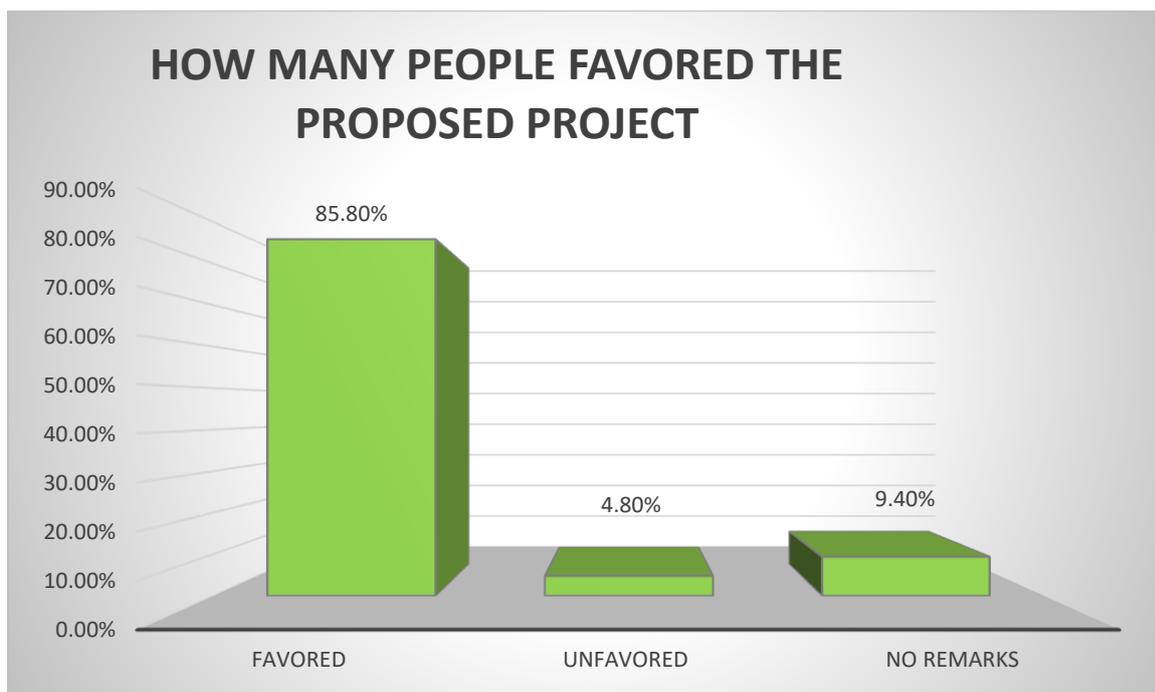


In the sampled population, 85% respondents were male while 15% respondents were female. The number of female respondents is less as compared to male respondents because according to the social binding female hesitates to respond or communicate comfortably.



In the sampled population, 77% respondents were educated while 23% were uneducated. Overall education status of the area is good.

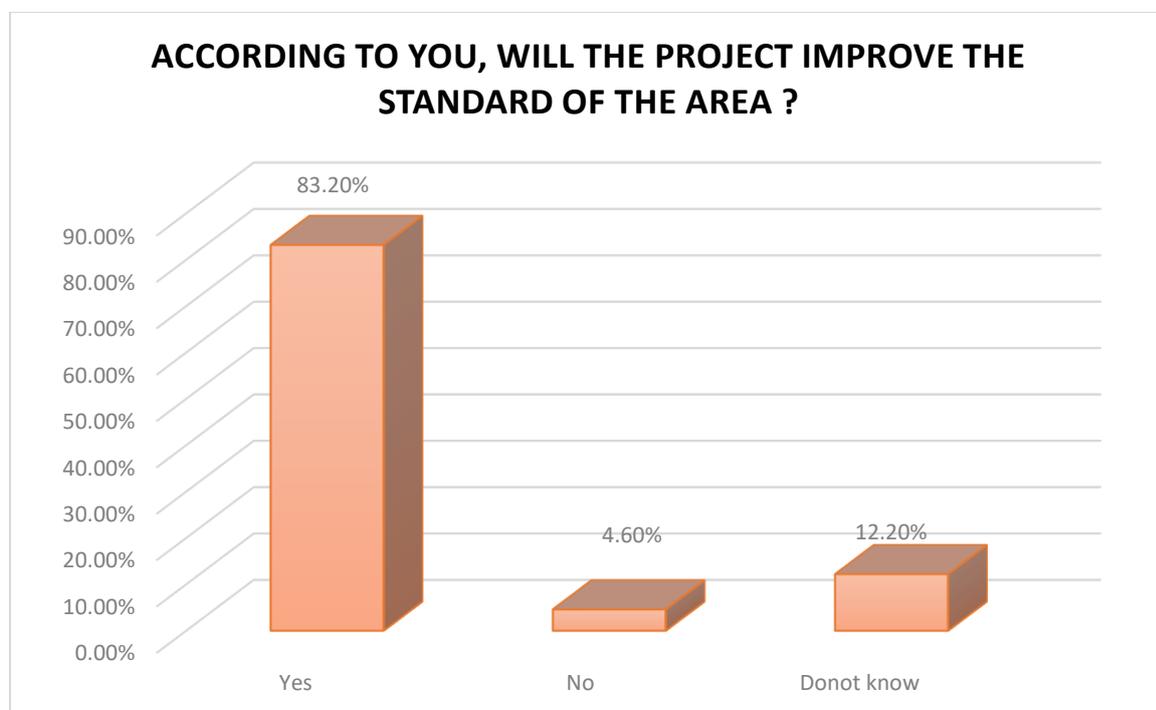
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As per survey, 85.80 % people favored the project and they gave positive remarks regarding the subject project. While 9.40% respondents had no opinion regarding the project and 4.80% respondents were not satisfied with the project because they think that development will affect the natural aesthetics of the area.

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As per survey, 4.50% respondents said that subject project will affect the environment of the area, 9.8% said that there will be less effect on the environment, 76.50% respondents said that the project will not affect the environment and 9.20% said that they have no idea regarding the subject project. Most of the population was not aware about the environmental importance; they were giving their remarks according to their own knowledge



As Per survey, 83.2 % people said that the project will improve the standard of the area, 4.60% said that it will have no impact on the area while 12.20 % respondents gave no remarks.

**FINDINGS OF THE OVERALL DISCUSSION:**

- It will enhance the socio-economic conditions/values of the area.
- Project will increase revenue generation for the Government.
- It will create employment opportunities.
- Local people will be given preference for employment in the proposed project.
- Construction of the project will be completed in the designated timeframe to limit adverse impacts of construction.
- There will be no significant additional load on the existing infrastructure i.e. utilities of water, telephone, electricity etc. due to the development of the proposed project.

**CHAPTER 9: CONCLUSION &  
*RECOMMENDATION***

## **CHAPTER # 9. CONCLUSION AND RECOMMENDATIONS**

Based on the study conducted for Environment Impact Assessment (EIA) for the subject project, the following conclusions are made:

### **9.1 CONCLUSIONS**

- The EIA study reveals that the project is economically viable, socially acceptable and environment friendly.
- It will generate additional jobs during construction and operation phases.
- The proponent has committed to implement the project in the environment friendly manner.
- M/S Atlantic Gas Private Limited intends to register the project with local Government.
- M/S Atlantic Gas Private Limited has prepared and implemented very comprehensive Emergency Preparedness and Response Standard Operating Procedures.
- M/S Atlantic Gas Private Limited has prepared and implemented very comprehensive Security and Fire Fighting Standards Operating Procedures.

### **9.2 RECOMMENDATIONS**

- In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.
- Tree plantation inside the unit and near the unit is recommended.
- The untreated wastewater will not be reused for irrigating the vegetation and lawns.
- High standards of bio-security and safety will be enforced during operation stage. Safety of the workers will be top priority for the management.
- The management of M/S Atlantic Gas Private Limited will continue to assist the local communities as a corporate/social responsibility.

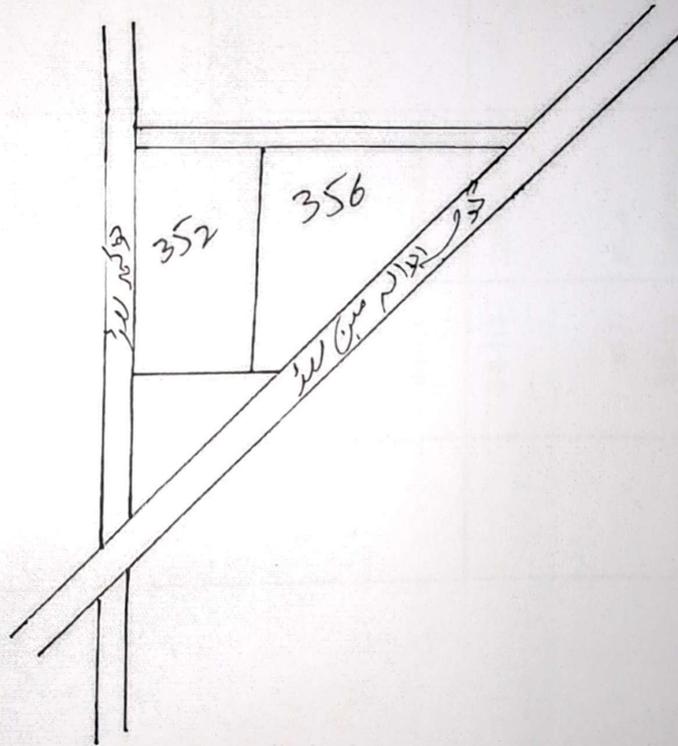
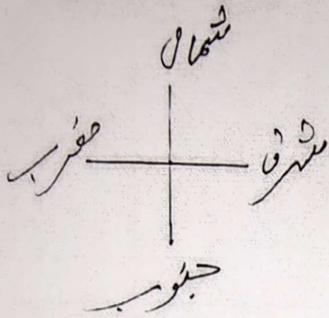
**ANNEXURE-A**

*TERM OF REFERENCES (TORs)*

**ANNEXURE-B**

***LAND DOCUMENTS***

مجلس شجره موقف جلد دومہ حصہ اول  
نوشہ درکار قطع کوہ انوار



نقل و حرکت  
سید احمد علی

نقل رجسٹر حقداران زمین (مسل میعاد)

لڑکی تصدیق کے لیے اپنے موبائل فون سے (QR) کو اسکین کریں۔



بجٹ طرف لپی عدد تحصیل نوشہرہ دریاں ضلع گوجرانوالہ سال 2019-20 کتاب نمبر ورق نمبر 2 / 9

نمبر کھیتی بائیکاٹ	کوائف مالک				نام کاشتکار مع احوال	نمبر خسرہ مع نام اگر کوئی ہو	رقبہ و قسم زمین کھیت و اراور میزان کھیتی بائیکاٹ و کھیت مالک	وساٹل آبیائی مکان جو کاشتکار	مطالبہ مع تفصیلات	تجربہ مع
	۳ (الف)	۳ (بج)	۳ (د)	۳ (و)						
172	نام مالک مع نام ولد/بھائی/قوم اور سکونت	نوعیت حقوق مالک	مشترکہ کھاد میں مخصوص حصہ	مخصوص رقبہ مطابق حصہ	زرعی پاس بک نمبر					
3 225 ذکر										
	ناصر آقبال ولد محمد مالک	مالک	32867/4443392	3-0-114						
	قوم خٹ ملکی ساکنہ		2							
	3 (ب) قومی شناختی کارڈ نمبر									
	34103-0526381-9									
	محمد اعظم ولد محمد مالک	مالک	32867/4443392	3-0-113						
	قوم خٹ ملکی ساکنہ		2							
	3 (ب) قومی شناختی کارڈ نمبر									
	34101-6840420-5									

مسل ہے نام درخواست کنندہ محمد آصف ولد محمد اسلم شاہد نام اجراء کنندہ نام اجراء کنندہ  
 نام ریکارڈ قوم رحمانی نام ریکارڈ ملک تدریج ذریعہ ملک تدریج ذریعہ ملک  
 شناختی کارڈ نمبر 3410305004989 تدریج ذریعہ ملک تدریج ذریعہ ملک  
 فرم آئی ڈی 0-00-00-076-00-00-00-0024311722 فرم آئی ڈی 850 فرم آئی ڈی 1017  
 فرم آئی ڈی 18/02/2025 12:17:28 فرم آئی ڈی 18/02/2025 11:58:12  
 فرم آئی ڈی 18/02/2025 11:56:42

نقل رجسٹر ہنداران زمین (مسل میعاد)

سکین کریں۔

سال 2019-20 کتاب نمبر ورق نمبر 3 / 9

طرح کو جرانوالہ

تحصیل نوشہرہ دریاں

طرف اپنی عمارت

بج

۱۰	۹	۸	۷	۶	۵	۴	۳ (۱)	۳ (۲)	۳ (۳)	۳ (ج)	۳ (الف)	۲
کیفیت مع	مطالبہ مع تفصیلات	مکان جو کاشتکار	وساگل آپاشی	رقبہ و قسم زمین قیمت دار اور	تہہ خسر و مع نام	نام کاشتکار مع احوال	کوائف مالک					نمبر کسٹرن
۱- نام نمبر دار (اگر کوئی ہو)	مالیہ وجوب	ادا کرتے شرح	مع نام چاہا اجاہ	میزان کسٹرنی کاشتکار و کمیونٹ	اگر کوئی ہو		رہی پاس یک نمبر	مخصوص رقبہ مطابق حصہ	مشترکہ کھیت میں مخصوص حصہ	نوعیت حقوق مالک	نام مالک مع والد / خاوند قوم اور سکونت	لاشکار
2- شرح مالیہ زمین	اور مطالبہ		وغیرہ	مالک						راہن سز تہن		
												172
												225
								4-4-204	339/32672	مالک	محمد اسد ولد حفیظ اللہ مالک	
											قومیت مالک سکندر	
											(ب) قومی شناختی کارڈ نمبر	
								4-4-204	339/32672		34103-7792168-3	
									7829/8168		بانی برستور	
								16-19-0	339/8168		میزان	
			قسم زمین	408-8-0	قطعات	میزان کمیونٹ						

0-00-00-076-00-00-00-0024311722 فردائی وی

کچھ سزاؤں کے لئے دستخط کی ضرورت ہے۔

اشفاق احمد ولد طارق جاوید

نام اجراء کنندہ



محمد آصف ولد محمد اسلم شاہد

نام درخواست کنندہ

اراضی ریکارڈ سٹیز نوشہرہ دریاں - DMM

18/02/2025 12:17:28

تاریخ اثر تک

3410305004989

قوم رضائی

850 فردیس

18/02/2025 11:58:12

تاریخ اجراء

3410305004989

شناختی کارڈ نمبر

18/02/2025 11:56:42

تاریخ ٹوکن اجراء

1017 ٹوکن نمبر











نقل رجسٹر حقداران زمین (مسل میعاد)

ردیفوں کے لیے اپنے نمبروں سے (QR) کو

سکین کریں۔

خط کو برانوالہ

تفصیل نوشہرہ دریاں

طرف اپنی عداد

سال 2019-20 کتاب نمبر ورق نمبر 7 / 9

۱۰	۹	۸	۷	۶	۵	۳	۳ (د)	۳ (ہ)	۳ (د)	۳ (ج)	۳ (الف)	نمبر کمیٹی کاشکار
کیفیت معیار	مطالبہ مع تقصیلات	کان جو کاشکار	وسائل آبپاشی	رقبہ و قسم زمین کیفیت دار اور	نمبر خسرہ مع نام	نام کاشکار مع احوال	زرگی یاں تک نمبر	مخصوص رقبہ مطابق	مشترکہ کسات میں مخصوص	نوعیت حقوق مالک	نام مالک مع نام والد / خاوند قوم اور سکونت	
1- تمام نمبر دار (کر کوئی ہو)	مالیہ و جواب	دار کت سے شرح	مع نام چاہر اجاہ	میزان کمیٹی کاشکار و کمیونٹ	آکر کوئی ہو							
2- شرح مالہ زمین	اور مطالبہ	وغیرہ		مالک								

نمبر کمیونٹ	مرحہ نمبر	عشرہ نمبران	عشرہ و پانچ پانچ	چاقق	چکہ
62		242, 246, 334, 348, 349, 351, 352, 354, 355, 356,	105,000	نی مراد	آف روڈ
62		358, 360, 361, 362, 363, 364, 382, 484, 485, 94,	2,670,000	نی مراد	آف روڈ
62		102, 130, 132, 183, 288, 242, 246, 250, 334, 348,	185,000	نی مراد	میں روڈ
62		349, 351, 352, 354, 355, 356, 358, 360, 361, 362,	195,000	نی مراد	میں روڈ
		363, 364, 382, 410, 415, 454, 462, 463, 466, 467,			
		468, 469, 470, 471, 478, 484, 485, 94			
		253, 254, 255, 296, 297			
		ہندہ, 163, 172/1, 176, 189, 193, 195, 101, 101,			
		دکن, 195, 196, 196, 196, 196, 197, 197, 197, 198,			
		199, 200, 201, 237, 267/1, 283, 283, 283, 290,			
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0-00-00-076-00-00-00-0024311722 فرآئی ڈی

کمپیوٹرائزڈ نقل و سچائی کی ضرورت ہے۔

اسحاق احمد ولد طارق ماہد

نام اجراء کنندہ

محمد آصف ولد محمد اسلم شاہد

نام درخواست کنندہ

اراضی ریکارڈنگ سسٹم نوشہرہ دریاں - DMM

18/02/2025 12:17:28

نمبر نوٹیفکیشن



3410305004989

قوم رحمانی

850 فرد نیس

18/02/2025 11:53:12

شرح در اجراء

شناختی کارڈ نمبر

18/02/2025 11:53:42

شرح نوٹیفکیشن اجراء

1017 نوٹیفکیشن نمبر

Description: AFFIYAT  
 Applicant: NASSIR UDDIN AHMAD (34103-0526381-9)  
 SPT: MIB-ADD-AL-EMAN  
 Agent: HAFIZ ALI AHMAD (34103-1257334-7)  
 Address: GAGGEY TOLL KOWS-HERA VERKAN  
 Issue Date: 18-Feb-2025, 10:50:09 AM  
 Deleted On/Validity: 25-Feb-2025  
 Paid Through Channel: 2025AE1E26215A68  
 Amount in Words: Three Hundred Rupees Only  
 Reason: AFFIYAT

نوٹ: پرنٹنگ میٹریل اور اسٹامپ کے لیے قابل استعمال ہے، اسے کسی قسم کی تبدیلی یا ترمیم کے بغیر استعمال کیا جائے۔  
 Type "eStamp <16 digit eStamp Number>" send to 8100

﴿اجارہ نامہ بابت کرایہ داری امرامشی موضع چک چوہڑ تحصیل نوشہرہ درگاں ضلع گوجرانوالہ برائے ATLANTIC GAS (PRIVATE) LIMITED﴾  
 لاکان امرامشی:  
 1۔ ناصر اقبال ولد محمد مالک قوم جٹ ملہی ساکن گلے تحصیل نوشہرہ درگاں ضلع گوجرانوالہ (فریق اول)  
 2۔ محمد اسد ولد سیف اللہ ماگت قوم جٹ ماگت ساکن گلے تحصیل نوشہرہ درگاں ضلع گوجرانوالہ (فریق اول)  
 3۔ محمد عثمان ولد سیف اللہ ماگت قوم جٹ ماگت ساکن گلے تحصیل نوشہرہ درگاں ضلع گوجرانوالہ (فریق اول)  
 4۔ محمد اعظم ولد محمد مالک قوم جٹ ملہی ساکن گلے تحصیل نوشہرہ درگاں ضلع گوجرانوالہ (فریق اول)

ATLANTIC GAS (PRIVATE) LIMITED ذریعہ سیف اللہ ماگت ولد حضور ماگت قوم جٹ ماگت ساکن گلے تحصیل نوشہرہ درگاں ضلع گوجرانوالہ (فریق دوم) ایما کہ فریقین اس بات کے اتراضی ہیں کہ فریقین اول نے اپنی ملکی امرامشی موضع چک چوہڑ تحصیل نوشہرہ درگاں ضلع گوجرانوالہ (فریق اول) سے 19 مارچ 1999ء کو فروغ سولہ سال (نیم سال) ایما کیا۔ محمد اعظم، محمد اسد، محمد عثمان، ناصر اقبال (پھر بعد) کی زمین کا کھیت نمبر 62، ضرہ نمبر 352، 356، جو کہ فریقین اول خود لاکان و قباضات ہیں اور مکمل اختیار رکھتے ہیں کہ امرامشی مذکورہ کو کسی نیز غیر طریقہ تکمیل اختیار حاصل ہے۔ ان کے فریق دوم 25 سال کے عرصہ میں معاہدہ چکریا کر کے لیے دیا ہے اور معاہدہ بڑا کی شرائط حسب ذیل ہیں۔

- 1۔ یہ کرایہ امرامشی موضع کے کرایہ داری کا معاہدہ عرصہ 25 سال کا ہوگا۔ جس کا اطلاق مورخہ 15 فروری 2025 سے شروع ہوگا اور مورخہ 15 فروری 2050 تک ہوگا۔
- 2۔ یہ کرایہ کرایہ امرامشی موضع کا سٹیلا۔ 2,40,000/- روپے (دو لاکھ چالیس ہزار روپے) سالانہ ہوگا۔
- 3۔ یہ کرایہ ہر 3 سال بعد سالانہ کرایہ میں سٹیلا 10% کا اضافہ ہوگا۔
- 4۔ یہ کرایہ قرض آفات یا ناقص حالات کی وجہ سے (جیسے کہ زلزلہ، جنگ وغیرہ) کی صورت کرایہ سبک ہوگا۔
- 5۔ یہ کرایہ معاہدہ ختم ہونے پر دونوں فریقین باہمی رضامندی سے معاہدہ بڑا کی تہہ بے ہوئے گا۔
- 6۔ یہ کرایہ دوم کا کاروبار ہٹانے کی صورت میں زمین، لاکھوں روپے بڑا کوٹالی کرنے کے ہما ہوتے اور فریق دوم کو اپنا ہمارتی سامان، پیچھا اور شیری وغیرہ لے کر جانے کی اجازت ہوگی اور اس پر فریق اول کو کوئی تفرقہ اعتراض نہ ہوگا۔
- 7۔ یہ کرایہ دوم کا کٹ معاہدہ بڑا کے ساتھ لے ہے جو کہ گاگی ہائٹ کے ذریعہ فریقین اول نے حاصل کر رکھا ہے اور اس معاہدہ پر فریقین اول کے باقی شرعی داربان کو کوئی اعتراض نہ ہوگا۔
- 8۔ یہ کرایہ دوم کو کرایہ دوم کے کٹ معاہدہ بڑا کے ساتھ لے کرنے کے مکمل اختیار حاصل ہوں گے اور کوئی تفرقہ نوئی کام نہیں کرے گا۔
- 9۔ یہ کرایہ دوم کو کرایہ دوم میں ATLANTIC GAS (PRIVATE) LIMITED کا پلاٹ لگوانا چاہتا ہے اور فریق اول اس پر کوئی تفرقہ نہیں ہوگا۔
- 10۔ یہ کرایہ امرامشی موضع کے کٹ معاہدہ بڑا کے ساتھ لے کر شری داربان کی اجازت حاصل کر کے اور فریق دوم کے مکمل اختیار حاصل ہوں گے۔
- 11۔ یہ کرایہ معاہدہ بڑا کی پابندی پر فریقین اول کے شرعی داربان کی بخشش پر ہی لاگو ہوگی۔ نیز زمین متعلق اس بات کے کسی اتراضی ہیں کہ فریق دوم نے معاہدہ بڑا کو کرایہ داری کے لیے اپنے دستخط نشان لگائے ہوتے دئے ہیں۔ لہذا معاہدہ کو لاکان معاہدہ بڑا کو کرایہ داری کے لیے تاکر وقت ضرورت کام آئے۔

العبد 34103-0526383-7 العبد 34103-0526381-9 العبد 34103-7793118-3 العبد 34103-7792168-3 العبد 34101-6840424  
 سیف اللہ ماگت (فریق دوم) ناصر اقبال (فریق اول) محمد عثمان (فریق اول) محمد اسد (فریق اول) محمد اعظم (فریق اول)

کراہہ 34103-6817366-1  
 محمد جبار ولد محمد عباس ساکن عابد آباد تحصیل نوشہرہ درگاں ضلع گوجرانوالہ

کراہہ 34103-0500498-9  
 محمد آصف ولد محمد اسلم ساکن عابد آباد تحصیل نوشہرہ درگاں ضلع گوجرانوالہ



**ANNEXURE-C**

*LAYOUT MAP OF PROPOSED SITE*

**ANNEXURE-D**

*LAB REPORTS (AIR, NOISE,  
WATER)*

## CHEMICAL ANALYSIS TEST REPORT (AMBIENT AIR)



Reference Number: ESPAK/00761P/25/AA/07732/00942 Date: 11/08/2025  
 Name of Industry/Client: Atlantic Gas (Private) Limited  
 Address: Mauza Chak Chohar, Tehsil Nowshehra Virkan, District Gujranwala  
 Validation Officer: Muhammad Nadeem, Research Officer  
 Nature of Sample: Ambient Air Monitoring Location: Near Proposed Site  
 Date of Sample Collection: 06/08/2025  
 Sample Collected/Sent By: Mehmood Aslam, Analyst (Field), ESPAK Grab / Composite: Continuous 24-Hours  
 Date of Completion of Analysis: 07/08/2025

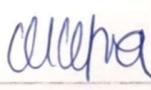
S. No	Parameters	Limit Values (PEQS-24 Hours)	Concentration	Method / Equipment Used	Remarks
1	Carbon Monoxide (CO)	5 mg/m <sup>3</sup> (8 Hours)	1.3 mg/m <sup>3</sup>	Non Dispersive Infrared Absorption (NDIR)	Within Prescribed Limits
2	Sulfur Dioxide (SO <sub>2</sub> )	120 µg/m <sup>3</sup>	12.8 µg/m <sup>3</sup>	UV Fluorescence (UVF)	Within Prescribed Limits
3	Ozone (O <sub>3</sub> )	130 µg/m <sup>3</sup> (1 Hour)	24.6 µg/m <sup>3</sup>	Non Dispersive UV Absorption	Within Prescribed Limits
4	Oxides of Nitrogen as NO	40 µg/m <sup>3</sup>	21.9 µg/m <sup>3</sup>	Chemiluminescence Detection	Within Prescribed Limits
5	Oxides of Nitrogen as NO <sub>2</sub>	80 µg/m <sup>3</sup>	31.7 µg/m <sup>3</sup>	Chemiluminescence Detection	Within Prescribed Limits
6	Particulate Matter PM <sub>2.5</sub>	35 µg/m <sup>3</sup>	33.4 µg/m <sup>3</sup>	Particulate Sensor	Within Prescribed Limits
7	Particulate Matter PM <sub>10</sub>	150 µg/m <sup>3</sup>	138 µg/m <sup>3</sup>	Particulate Sensor	Within Prescribed Limits
8	Suspended Particulate Matter (SPM)	500 µg/m <sup>3</sup>	386 µg/m <sup>3</sup>	Particulate Sensor	Within Prescribed Limits

PEQS: Punjab Environmental Quality Standards for Ambient Air, 2016

**Note:**

- The report should be reproduced as a whole and not in parts.
- Report Limitation: This report is not valid for court cases.

1. Sample Analyzed By: Mehmood Aslam  
Analyst (Field)

2. Name of Chief Analyst with Seal: Muhammad Arfan 

3. Signature of Incharge of the Environmental Laboratory:

Name: Imran Malik  
General Manager  
Date: 11/08/2025



----- End of Report -----



## NOISE MONITORING REPORT

Reference Number: ESPAK/00761P/25/N/07733/00853 Date: 11/08/2025  
 Name of Industry/Client: Atlantic Gas (Private) Limited  
 Address: Mauza Chak Chohar, Tehsil Nowshehra Virkan, District Gujranwala  
 Validation Officer: Muhammad Nadeem, Research Officer  
 Nature of Sample: Noise  
 Date of Sample Collection: 06/08/2025 Grab / Composite: Continuous 24-Hours  
 Sample Collected/Sent By: Mehmood Aslam, Analyst (Field), ESPAK  
 Date of Completion of Analysis: 07/08/2025  
 Method/Equipment Used: Sound Level Meter

S. No	Measurement Point	Limit Values (PEQS)	Noise Level in dB(A) Leq	Remarks
1	Near Proposed Site- Day time	75 dB(A)	71 dB(A)	Within Prescribed Limits
2	Near Proposed Site- Night time	65 dB(A)	60 dB(A)	Within Prescribed Limits

PEQS: Punjab Environmental Quality Standards for Noise in Industrial Area, 2016 Day Time Hours (6:00 am to 10:00 pm) Night Time Hours (10:00 pm to 6:00 am)

### Note:

- The report should be reproduced as a whole and not in parts.
- Report Limitation: This report is not valid for court cases

1. Sample Analyzed By: Mehmood Aslam  
Analyst (Field)

2. Name of Chief Analyst with Seal: Muhammad Arfan 

3. Signature of Incharge of the Environmental Laboratory:

Name: Imran Malik  
General Manager

Date: 11/08/2025

----- End of Report -----





## CHEMICAL ANALYSIS TEST REPORT (GROUND WATER)

Reference Number: ESPAK/00761P/25/GW/07734/01354 Date: 11/08/2025  
 Name of Industry / Client: Atlantic Gas (Private) Limited  
 Address: Mauza Chak Chohar, Tehsil Nowshehra Virkan, District Gujranwala  
 Validation Officer: Muhammad Nadeem, Research Officer  
 Nature of Sample: Ground Water from Bore  
 Date Sample Received: 07/08/2025 Grab / Composite: Grab  
 Date of Sample Collection: 06/08/2025  
 Sample Collected / Sent By: Mehmood Aslam, Analyst (Field), ESPAK  
 Date of Completion of Analysis: 11/08/2025

S. No	Parameters	Limit Values (DW-PEQS)	Concentration	Method / Equipment Used	Remarks
1	Total Coliforms	----	ND	SMWW 9222 B	----
2	Fecal Coliform Bacteria	Must not be detectable in any 100mL sample	ND	SMWW 9222 H	Within Limits
3	E. Coli	Must not be detectable in any 100mL Sample	ND	SMWW 9222 H	Within Limits
4	Taste	Non Objectionable / Acceptable	Acceptable	Organoleptic	Within Limits
5	Odor	Non Objectionable / Acceptable	Acceptable	Organoleptic	Within Limits
6	pH*	6.5-8.5	7.6	SMWW 4500H*B	Within Limits
7	Turbidity	<5 NTU	ND	SMWW 2130B	Within Limits
8	Color	≤15 TCU	ND	SMWW 2120 C	Within Limits
9	Total Dissolved Solids (TDS)*	<1000 mg/L	644 mg/L	SMWW 2540C	Within Limits
10	Total Hardness as CaCO <sub>3</sub> *	<500 mg/L	310 mg/L	SMWW 2340C	Within Limits
11	Residual Chlorine	0.2-0.5 mg/L	ND	SMWW 4500-Cl B	----
12	Chloride (as Cl <sup>-</sup> )*	<250 mg/L	38 mg/L	SMWW 4500Cl <sup>-</sup> B	Within Limits
13	Fluoride (F <sup>-</sup> )*	≤1.5 mg/L	0.4 mg/L	U.S. EPA 9214	Within Limits
14	Cyanide (CN <sup>-</sup> )	≤0.05 mg/L	ND	SMWW 4500 CN <sup>-</sup> F	Within Limits
15	Nitrate (NO <sub>3</sub> <sup>-</sup> )	≤50 mg/L	ND	SMWW 4500NO <sub>3</sub> <sup>-</sup> B	Within Limits
16	Nitrite (NO <sub>2</sub> <sup>-</sup> )	≤3 mg/L	ND	SMWW 4500NO <sub>2</sub> <sup>-</sup> B	Within Limits
17	Phenolic Compounds (as Phenols)	NGVS	ND	SMWW 5530 C	----
18	Aluminum (Al)	≤0.2 mg/L	ND	SMWW 3111	Within Limits
19	Antimony (Sb)	≤0.005 mg/L	ND	SMWW 3111	Within Limits
20	Arsenic (As)	≤0.05 mg/L	ND	SMWW 3114 B	Within Limits
21	Barium (Ba)	0.7 mg/L	ND	SMWW 3111	Within Limits
22	Boron (B)	0.3 mg/L	ND	SMWW 4500-B B	Within Limits

## CHEMICAL ANALYSIS TEST REPORT (GROUND WATER)

Reference Number: ESPAK/00761P/25/GW/07734/01354 Date: 11/08/2025  
 Name of Industry / Client: Atlantic Gas (Private) Limited



S. No	Parameters	Limit Values (DW-PEQS)	Concentration	Method / Equipment Used	Remarks
73	Cadmium (Cd)	0.01 mg/L	ND	SMWW 3111	Within Limits
24	Chromium (Cr)	≤0.05 mg/L	ND	SMWW 3111	Within Limits
25	Copper (Cu)	2.0 mg/L	ND	SMWW 3111	Within Limits
26	Lead (Pb)	≤0.05 mg/L	ND	SMWW 3111	Within Limits
27	Manganese (Mn)	≤0.5 mg/L	ND	SMWW 3111	Within Limits
28	Mercury (Hg)	≤0.001 mg/L	ND	SMWW 3112	Within Limits
29	Nickel (Ni)	≤0.02 mg/L	ND	SMWW 3111	Within Limits
30	Selenium (Se)	0.01 mg/L	ND	SMWW 3114 B	Within Limits
31	Zinc (Zn)	5.0 mg/L	0.5 mg/L	SMWW 3111	Within Limits

DW-PEQS: Punjab Environmental Quality Standards for Drinking Water Quality, 2016

SMWW: Standard Methods for the Examination of Water and Waste Water, American Public Health Association, American Water Works Association, Water Environment Federation

USEPA: United States Environmental Protection Agency

NGVS: No Guideline Value Set

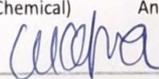
ND: Not Detected

- Laboratory tests and measurements were carried out at 25 ± 5 °C and ≤75 % Relative Humidity conditions unless required otherwise.
- Uncertainty of Measurement (UoM) data will be provided on request, where available. The statement of conformity, if provided in the report, is based on the decision rule of simple acceptance or rejection with equal shared risk due to measurement uncertainty.

**Note:**

- The report should be reproduced as a whole and not in parts.
- Only parameters marked with asterisk (\*) are ISO 17025:2017 accredited.
- Report Limitation: This report is not valid for court cases.

1. Sample Analyzed By: Samahir Khalid Nageen Arshad Sumra Manzoor Zirwa-tuz-Zahra Khizra Bano  
 Analyst (Chemical) Analyst (Chemical) Analyst (Chemical) Analyst (Chemical) Analyst (Microbiology)

2. Name of Chief Analyst with Seal: Muhammad Arfan 

3. Signature of Incharge of the Environmental Laboratory:

Name: Imran Malik  
 General Manager

Date: 11/08/2025



----- End of Report -----

**ANNEXURE-E**

**GOOGLE EARTH MAP**

# Identification of Proposed Area

Construction of LPG Filling and Storage Plant

### Legend

- ???? ?????? ??? ????????
- Distance to
- Distance to Azhar Petroleum = 0. KM
- Distance to Chak Araiyan = 0.52 KM
- Distance to Chak Chaudry = 1.15 KM
- Distance to Govt Primary School Madan Chak = 1.20 KM
- Distance to Madan Chak = 1.39 KM
- Distance to Makkah Pizza & Bar B Q = 0.51 KM
- Feature 1
- Feature 2
- Feature 3
- Graveyard Madan Chak
- Gujranwala - Sheikhpura Road
- Gujranwala Road to Nowshera Virkan
- Population Cluster
- Proposed Land
- Spy Camera Shop



**ANNEXURE-F**

**OGRA LICENSE**

OGRA-LPG-17 (1357)/25  
July 25, 2025

Chief Executive,  
M/s Atlantic Gas (Private) Limited,  
83-D, Commercial Area, DHA Phase XII,  
EME Housing Society, Canal Road,  
Lahore, Ph No. 042-37882596

Subject: **LICENCE FOR CONSTRUCTION OF LPG STORAGE AND FILLING PLANT TO M/S ATLANTIC GAS (PRIVATE) LIMITED AT KHEWAT NO. 62, KHATOONI NO 172 TO 225 AND KHASRA NO. 352, 356, MOUZA CHAK CHOHR, TEHSIL NOWSHEHRA VIRKAN, DISTRICT GUJRANWALA**

I am directed to refer to your application for grant of licence and to enclose herewith the licence for construction of LPG Storage and Filling Plant granted initially by the Authority for a period of two years under Rules 7 & 8(1) of LPG Rules, 2001, based on the application/documents as provided by the company, along-with the proforma of quarterly progress report, as per the condition of your licence and checklist of technical parameters / criteria (of NFPA-58) for LPG storage and filling installation, derived from NFPA-58, as prescribed in the LPG (Production & Distribution) Rules, 2001. The checklist apart from being a general guideline for the convenience of all the LPG licensees who were granted licence for construction of LPG storage and filling plant will also form the basis of inspections. However, complete details about each requirement, technical / safety parameters are given in NFPA-58 Standard (latest edition) as specified in LPG (Production & Distribution) Rules 2001, which must be complied with.

2. In case of any demonstrable reason beyond your control, you foresee inability to complete construction of works within the validity period of the licence, you will be required to apply to the Authority for extension well in time prior to the expiry of licence.
3. This issues with the approval of the Authority.

Yours Sincerely,



(Arsalan Ahmad Khan)  
Joint Executive Director (LPG)  
For and on behalf of the  
Oil & Gas Regulatory Authority

<b>TITLE OF THE LICENCE</b>	<b>Licence for Construction of LPG Storage and Filling Plant</b>		
<b>Validity Period</b>	From: July 25, 2025 to July 25, 2027		
<b>LICENCE NO.</b> OGRA-LPG-17(1357)/25	<b>DATE:</b> July 25, 2025		
Granted under Rules 7 and 8 (1) of LPG (Production and Distribution) Rules, 2001			
<b>Name of the Company:</b>	M/s Atlantic Gas (Private) Limited		
<b>Registration No.</b> (Under section 16 of the Companies Act, 2017)	<b>No.</b> 0268174	<b>Date:</b> 3 <sup>rd</sup> September, 2024	<b>Place:</b> Islamabad
<b>Name of the Chief Executive:</b>	Mr. Saifullah Ullah Manghat		
<b>Address:</b>	83-D, Commercial Area, DHA Phase XII, EME Housing Society, Canal Road, Lahore		
<b>Contact No.</b>	Phone	042-37882596	
	Fax	---	
	Email	atlanticgaspvt@gmail.com	
<b>Proposed Nature of Works</b>	Storage: (2X50) 100MT Filling Capacity: 25+ MT/Day		
<b>Area of Operations</b>	All over the Country		
<b>Location of Plant</b>	Khewat No. 62, Khatooni No 172 to 225 and Khasra No. 352, 356, Mouza Chak Chohar, Tehsil Nowshehra Virkan, District Gujranwala		

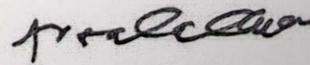
**TERMS AND CONDITIONS OF THE PROVISIONAL LICENCE**

- i. Construction of LPG storage and filling facilities will be started only after obtaining NOCs from all concerned Federal/Provincial/Local authorities including NOC of Environment Protection Agency (EPA), strictly complying with the applicable laws clearly stating that the site is suitable for putting up LPG facility from public safety point of view. The company shall be responsible and liable for any act on its part leading to violation of any law, bye-laws or imposition of penalties by any of the above concerned departments/authorities.
- ii. Construction of proposed works for the storage and filling plant shall be strictly in accordance with the LPG (Production & Distribution) Rules, 2001, as amended from time to time, the terms and conditions of this provisional licence and instructions of the Oil and Gas Regulatory Authority hereinafter referred to as the "Authority", issued from time to time, in the public interest.
- iii. Issuance of this provisional licence in no manner shall establish the right of the company for any allocation of LPG quota. Company shall be fully responsible to arrange supplies of LPG on commercial basis at its own cost and risk.
- iv. As soon as the construction is completed and licence from Department of Explosives is obtained, the company shall approach the Authority for appointment of 3<sup>rd</sup> party inspectors to verify the works. The Authority will appoint the 3<sup>rd</sup> party Inspector under Rule 13 of LPG Rules, 2001, who shall verify technical competence of your staff and shall certify that the equipment, machinery, fittings, fixtures and installation meet the requisite safety standards. In case of any deficiency or fault, the company shall not operate the LPG storage and filling plant, even on trial run unless the deficiencies/faults are removed / rectified to the satisfaction of the Authority. The company shall pay prescribed fee to the Authority, for the purpose of such 3<sup>rd</sup> party inspection or inspections.
- v. The company shall mark with conspicuous sign on the place at which the storage tanks, filling plants, etc are located for the purpose of safety and security.
- vi. Purchase or sale of any specified equipment and machinery from or to any other licensee shall require prior permission in writing of the Authority.
- vii. The company shall strictly comply with the prescribed standards as set out in Appendix-1 of the Liquefied Petroleum Gas (Production and Distribution) Rules, 2001. Any negligence on the part of the company or non-compliance of prescribed standards by the company, causing damage or loss of life/property shall be compensated by the company in accordance with the applicable laws.

Plot No. 37 & 39, Mauve Area, G-10/4, Islamabad

پلاٹ نمبر 37 & 39، ماوا ایریا، جی ٹین فور، اسلام آباد

- viii. Quarterly progress report on the prescribed proforma shall be submitted to the Authority on regular basis.
- ix. The company shall not make any major alteration, in addition to or extension of works as given in your plans unless such alteration, addition or extension is authorized by the Authority.
- x. The company shall not abandon or shift any works or portion of works without the prior approval in writing of the Authority.
- xi. This licence is applicable only to the site/location at "Khewat No. 62, Khatooni No 172 to 225 and Khasra No. 352, 356, Mouza Chak Chohar, Tehsil Nowshehra Virkan, District Gujranwala.". Any other site will require a fresh licence.
- xii. The company shall not without the prior approval in writing of the Authority sell, assign, transfer, convey or lease his licence or his works or any interest therein in whole or in part.
- xiii. The company shall not carry out any commercial activity including the LPG supply to any other LPG Marketing Company or to a consumer without a valid LPG Marketing Licence.
- xiv. Grant of Marketing Licence shall only be considered after completion of works and verification by 3<sup>rd</sup> party inspectors in terms of Rule 13(2) of LPG Rules, 2001 and after obtaining licence from the Department of Explosives.
- xv. In case any information/document or undertaking provided at any stage by the licensee is found incorrect, the licence or permission granted based on such information/document or undertaking shall be cancelled / revoked/ withdrawn in addition to any other legal action, penalty which the OGRA is empowered to initiate/impose under the law.
- xvi. The Authority may, from time to time, issue any other instruction or instructions, which in the opinion of the Authority would be necessary to safeguard the public interest and they shall be binding on the company.
- xvii. The LPG marketing companies shall ensure at least 10% inventory of 2,4,6 KGs LPG cylinders in their total metal inventory for distribution in their areas of operation. All cylinders must be manufactured as per the standards stipulated in OGRA LPG Rules, 2001 from OGRA's authorized manufacturing companies of LPG equipment, with company name and serial number embossed on them. Details of the same are to be furnished to OGRA on biannual basis".
- xviii. All the LPG storage, filling and marketing companies, based on the storage capacity and minimum work program, shall maintain a minimum metal inventory of the cylinders. Metal inventory of 1500 domestic / commercial cylinders is to be ensured before start of operation, which shall be ramped upto 3500 domestic commercial cylinders or 50,000Kg of Cylinder Capacity at the time of first periodic inspection. The same shall be informed to the Authority. All cylinders of the inventory shall have serial Nos, date of manufacturing as well as brand name/insignia engraved on them.
- xix. The Company shall ensure that in future there shall be no residential / commercial areas near its site.
- xx. Any change in the Chief Executive or Directors of the company shall be reported to the Authority within fourteen (14) days of such a change.
- xxi. That a paved/ compacted connecting passage /road connecting the proposed site of LPG Storage & Filling Plant with the main highway/ road shall be constructed by the company which shall be suitable for safe transportation/ movement of fully laden LPG bowsers and that the designated Third Party Inspector of OGRA shall verify the same in its Pre-Commissioning Report.
- xxii. Please convey your acceptance of the terms and conditions of this license within 15 days after which it shall be construed as acceptance of this licence and that the terms and conditions have been carefully read and understood by all managerial and operating staff of the company.





For and on behalf of  
Oil and Gas Regulatory Authority,  
Islamabad.

CC:

1. The Secretary, Ministry of Energy (Petroleum Division), Government of Pakistan, Islamabad.
2. The Chairman, Federal Board of Revenue (FBR), Islamabad.
3. The Chief Secretary, Government of Punjab, Lahore.
4. The Director General, Department of Explosives, Ministry of Energy, Islamabad.
5. The Deputy Commissioner, Gujranwala.
6. The DG, Environmental Protection Agency (EPA), Lahore

**ANNEXURE-G**

***WASTEWATER CERTIFICATE***