ENVIRONMENTAL EQUIPMENT CO. LTD.

COMPANY PROFILE

WATER & WASTE WATER DIVISION

Design | Engineering | Installation
GENERAL INTRODUCTION

ETCH2O is essentially a multi discipline design, build and Engineering company with the experience and capabilities in Design & Engineering using computer aided drafting and project management systems, on full turnkey basis, in the following sectors;

1. Domestic Sector.
2. Industrial sector
3. Oil & Gas Sector
4. Drilling & Petrochemical Sector

Organizations are always looking to find lower cost solutions to the problem of meeting higher water quality standards. Cost issues such as water and treatment plant design, operation cost, and manpower requirements all influence how the Government Agency will deal with water and wastewater treatment. This is a challenging time to find innovative low cost engineering solutions with little down side risk.

ETCH2O has designed and produced a very successful range of High Speed Biotech Systems to help you provide simple low-cost solutions to meet the most stringent water and wastewater standards.

Enriched with highly qualified and experience staffs and professionals we are confident of under taking the new challenges and opportunities with firm conviction of executing and delivering every work according to customer specifications and requirement. We focused on continues improvement through innovation of new technology backed up by the support and commitment of experience and motivated employees.

Our constant interaction with our clients helps us integrate their visions and thoughts in to our work. Despite our sustain diversification, we have been able to maintain the quality, productivity, efficiency and safety in order to satisfy our customer requirement.
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PART - A

INTRODUCTION

ABOUT THE COMPANY
SYNOPSIS
AFFILIATIONS & PARTNERSHIPS
AFFILIATIONS & MEMBERSHIPS
ABOUT THE COMPANY

INTRODUCTION:

Etch2O is a division of SAF Group of companies established in Al-Khobar, Kingdom of Saudi Arabia. The group operates various divisions that are managed by dedicated experts well versed in all aspects of product techniques. They are supported by a sales team of highly qualified engineers and technicians to provide best quality products with guarantee of back-up services whenever required. The group holds sole agencies of numerous internationally recognized manufacturers and an extensive inventory of their products are always available ex-stock.

MISSION

“As an environmental leader, ETCH2O provides sustainable and fiscally responsible wastewater services to the communities it serves while maximizing the use of alternative and renewable resources, provide innovative and affordable services through partnerships with stakeholders, customers and the community.”

SCOPE OF ACTIVITIES:

ETCH2O Specializes in Waste Water Treatment Plant’s (WWTP) for the domestic (STP) & industrial wastewater market. Containerized package plants and customized treatment systems are available. ETCH2O speeds Bio-Tec Moving Bed Bio Reactors (MBBR) are fully automatic and incorporate their control for complete independence from other works. ETCH2O scan combine “smart solutions” as a result of our global operation with extensive experience in both production and WWTP operations.

VISION

“Together, we are a model of excellence and innovation in the water & wastewater industry. We give our best and work to create opportunities that enable each of us to reach our potential. We strive continually to improve our organizational and environmental performance. We pursue sustainable operations through resource recovery. We explore new and creative methods to meet future challenges.”
Environmental Equipment Company (Etch2O) is a subsidiary of SAF group of companies located in Dammam-KSA. Etch2O is a licensee of ETCH2O Global, with true dedication, backed up by decades of research and manufacturing, ETCH2O offers the finest solution for treating waste water while using best biotechnology available in the market. ETCH2O’s biological package plants are suitable for both industrial and domestic wastewater.

Division and Functions:

1. Sales Department:

ETCH2O sales department is run by team of highly tech savvy and qualified engineers specialized in waste water treatment plants whose mission is to introduce the clients with best solutions as per their requirements and to provide the best after sales service to gain the maximum customer satisfaction.

2. Projects/Operations Dept:

Run by a team of highly qualified engineers and technicians specialized in waste water treatment plants whose mission is pursuing and overseeing all the processes of installation, commissioning while using latest measuring instruments and technical expertise.

3. Design Dept:

Whereby the first and essential step of sound and intact job is taken. Utilizing the latest standards of engineering programs the system designs and different uses are well studied and the necessary shop drawings are prepared and correlated.

4. Maintenance Dept:

It is concerned with periodical inspections, guided by a technical well-studied program, to ensure a trouble free performance for Waster Water Treatment Plants. It also concerned with sludge overhauling and any other preventive activities.
AFILIATIONS AND PARTNERSHIPS

SAF GROUP

ETCH2O is a division of SAF group located in Saudi Arabia.

The SAF Group is one of the fastest growing service providers in Oil, Natural Gas, Energy and other related fields of service. It is based in Al-Khobar Saudi Arabia and has rapidly grown, and became a respected active player in this highly competitive and service oriented industry.

The rapid growth in the Middle East oil and natural gas as well as energy market has thrown open opportunities that were unimaginable a decade ago. SAF Group has placed itself at the forefront of this window of opportunity to open doors and also be at the crest of the wave of growth.

PARKSON CORPORATION

ETCH2O is in partnership with Parkson Co.USA
Parkson Corporation is a supplier of innovative, cost effective solutions for potable

Water, process water, and industrial and municipal waster water treatment.

Parkson has sales offices in Chicago, Montreal, Dubai and partners in Latin America and India. The international sales team works with representative networks in Mexico, Central and South America, Japan and China.

EEC –GLOBAL OPERATION LLC

Etch2o is sole licensee of EEC- Global –USA for Middle East region.

EEC-Global is providing the best products related to waste water treatment since 1984.EEC-Global’s biological waste water treatment package plants are suitable for both industrial and domestic wastewater. EEC -Global is considered to be one of the pioneers in the fluidized fixed-film biological wastewater treatment process, also known as Moving Bed Bio Reactors - MBBR, or Assisting Moving Bed - AMB.

EEC offers production in the USA, Europe, Middle East, South America, India and Thailand.
AFFILIATIONS AND MEMBERSHIPS

SAUDI ARAMCO VENDOR
Registered as supplier for Design, fabrication, erection and commissioning of package water and wastewater treatment plant.
Vendor ID (10039518)

VENDOR SABIC
Registered as supplier for the water and wastewater treatment products.
Vendor No (505554)

WATER ENVIRONMENT FEDERATION
Membership ID (01026603)

SAUDI ELECTRIC CO
Approved Contractor for Saudi Electric Co
Contractor No. (61599)

Saudi Arabia Water Environment Association (SAWEA)
Member of SAWEA
MEMBERSHIP ID (01026603)
PART - B

LEGAL DOCUMENTS

COMMERCIAL REGISTRATION
ZAKAT CERTIFICATE
CHAMBER OF COMMERCE CERTIFICATE
GOSI CERTIFICATE
VAT CERTIFICATE
PART - C

PRODUCTS & SERVICES

FUNDAMENTALS OF WASTEWATER TREATMENT
APPLICATION AREAS

PRODUCTS:
MBBR SYSTEMS
MEMBRANE BIO-REACTOR(MBR) SYSTEM
GEM SYSTEM
UF (ULTRAFILTRATION) SYSTEM
SEAWATER REVERSE OSMOSIS SYSTEM
BRACKISH WATER REVERSE OSMOSIS SYSTEM
CHEMICAL DOSING SYSTEM
GAS LINED STEEL TANKS
FUNDAMENTALS OF WASTEWATER TREATMENT

Wastewater may be defined as a combination of the liquid or water-carried wastes removed from residences, institutions, and commercial and industrial establishments, together with such ground surface water, and storm water as may be present.

ETCH2O is involved in the conception, evaluation, design, construction and operation and maintenance of the systems that are needed to meet wastewater management objective.

Treatment methods in which the removal or conversion of contaminants is brought about by biological activity are known as biological unit processing. Biological treatment is used primarily to remove the biodegradable organic substances (colloidal or dissolved) in wastewater.

Basically these substances are converted into gases that can escape to the atmosphere and into biological cell tissue that can be removed by settling. Biological treatment is also used to remove the nitrogen and phosphorus in wastewater.

Treatment methods in which the removal of
There are two basic biological treatment processes: aerobic (with oxygen) and anaerobic (without oxygen).

**Aerobic Treatment** is the process by which microorganisms use the waste's organic component with oxygen, which produces cell growth and end products of carbon dioxide and water. The most popular is the activated sludge process, which is commonly used for domestic and industrial wastewater. This process provides a high quality effluent and is capable of reducing BOD by 95%. The bacterial process oxidizes the soluble and suspended organic to carbon dioxide and water in the presence of oxygen. The organic material is converted into new cells or used to support growth of existing cells. The excess of cells is sludge.

**Anaerobic Treatment** is the process where microorganisms convert organic compounds to methane, carbon dioxide, cellular materials, and other organic compounds. The anaerobic process converts organic wastes to methane and carbon dioxide in the absence of air. Anaerobic treatment has the ability to perform the following decomposition:

- **Hydrolysis** - A breakdown of suspended organic solids into soluble organic compounds.
- **Acetogenesis** - A conversion of soluble organic to volatile fatty acids.
- **Methanogenesis** - A conversion of the volatile fatty acids into methane.

Methods of treatment in which the removal of contaminants is brought about by chemical or biological reactions are known as unit processes. Methods of treatment where the applications of physical forces predominate are known as unit operation. Unit operations and processes are grouped together to provide what is knows as primary, secondary, and tertiary treatment, are used to remove the floating and settleable impurities found in wastewater. In tertiary treatment, biological and chemical processes are used to remove other constituents, such as nitrogen and phosphorous which are not removed by secondary treatment.

The physical unit operations most commonly used in wastewater treatment include:

1) Screening
2) Comminution
3) Grit Removal
4) Flow equalization
5) Mixing
6) Flocculation
7) Sedimentation
8) Flotation
9) Filtration
10) Membrane Separation

Also, a measurement of flow is essential for operation, process control, and record keeping of water and wastewater treatment.

**Etch2O** offers wastewater treatment plants for Domestic i.e. Sewage Treatment Plants (STP) and Industrial Wastewater Treatment Plants. The treated water or effluent parameters like BOD, COD & TSS etc are the same as per Saudi Govt. Ministry of Water or ARAMCO or any other governing authority. In ETCH2O for treating the wastewater treatment MBBR Technology is being used.
**ETCH2O – SYSTEM APPLICATIONS:**

(Waste Water Treatment Plants)

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<td>• Military</td>
<td>• Most Organic Wastewater</td>
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<td>• Golf Clubs</td>
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MBBR SYSTEMS:

The basic process is based on MBBR technology. There are many plants installed and staffactorily operation on MBBR principle. MBBR has the following advantages over other competing technologies. The are very flexible processes since they are based on the percentage of plastic support used in the reactor, it is recommended that it is not greater than 70%, the surface can be modified and as a consequence the efficiency of the process.

ETCH2O High Speed Bio Tech Model CON3 series are shipped inside containers.

ETCH2O MAXI – 3 series, ETCH2O buy standard ISO MAXI containers, the W WTP itself are then constructed within the container itself that function as a system shelter.

FEATURES & BENEFITS:

- 10 times the loading in less than 1/5 the space.
- Quick startup – Robust operation.
- Robust and consistent operation.
- Minimum services and maintenance required.
- ETCH2O Bio is self-cleaning, no filters, no backwash, and no membranes to replace.
- In certain application, you can skip buffer and pre-settling tanks.
- Aeration ABM Bio Media require coarse air – clog and plug air system by ETCH2O.
- No Backwashing – clog free – AMB Bio Media with 20 years warranty.
- Fully automatic require minimum service maintenance.
- Meet stringent effluent standards consistently.
- Automatic Sludge handling and separation by ETCH2O Sludge cyclone.
- Easy to move and expand. ETCH2O offers any size of WWTP or Capacity.
- ETCH2O Bio is complete, containerized, tested and ready to operate.
BASIC PROCESS:


Description of the moving bed process
The basic principal of the moving bed process is the growth of the biomass on plastic supports that move in the biological reactor via agitation generated by aeration systems (aerobic reactors) or by mechanical systems (in anoxic or anaerobic reactors). The supports are made from plastic with a density close to 1 g/cm³, letting them move easily in the reactor even when the capacity reaches 70%.

The moving bed processes come from the current trend in wastewater treatment, from the use of systems that offer an increased specific surface in the reactor for the growth of the biomass, achieving significant reductions in the biological reactor volume.

Initially fixed bed systems were used, however it was discovered that this type of process show a series of operational inconveniences such as the blocking of the bed because of the excessive growth of the biomass, this makes periodical cleaning obligatory. These drawbacks have caused the need for the creation of simple biofilm processes that eliminate them and that ease their operation; these are the moving bed processes.

This type of process can be applied both to treatment plants for the biodegradation of organic material as well as for installations with nutrient elimination, in urban and industrial wastewaters. Another application is the use of this technology in the redesign of current activated sludge processes, which only treat organic material, to expand them and include simple nitrogen elimination without the need to construct new biological reactors.

With respect to the aeration system is via a grid of perforated stainless steel tubes that avoid problems.
PROCESS DESCRIPTION

A. Biological Treatment System
The ETCH2O biological treatment system is based on the Assisted Media Biofilm (AMB) process and comes with two moving bed bioreactors (MBBR) in series. The first reactor is acting as a roughing reactor to shave peak loads and remove most of the influent BOD. The second reactor is a polishing reactor designed to reach the required effluent BOD.

The bioreactors are filled with “AMB Bio Media” a specially designed biofilm carrier element, which is free floating and moving around in the reactor with the flow. The AMB bio medium provides an effective biofilm surface of 500 m² per m³ bulk material**. Simultaneously, biomass is trapped inside the carrier elements, providing additional MLVSS in the reactors without need for conventional activated sludge return.

**Total AMB Bio Media surface is 950

B. Settling Tank and Sludge Separation System
The biodegraded water flows by gravity into the clarification stage where the suspended solids settle by

The sludge should be returned to the septic tank for digestion and final m²/m³. Conservatively, we calculate only 500 m²/m³ as active bio media surface inside the ETCH2O Bio reactors. The bioreactors are aerated through a coarse bubble air distribution system at the bottom of the tank, with air supply from a rotary displacement air blower.

The diffusers are designed and manufactured by ETCH2O in stainless steel and may be removed gravity. The water is directed through a skim well to an inclined plate-settling zone, which provides the final clarification of the effluent, and where the sludge settles easily to the bottom of the tank.

removal and serviced without stopping aeration.
OPERATION OF SYSTEM

A. Flow Control.

The primary effluent is collected in the balancing tank/collection pit (below ground/above ground) by gravity or pumping. From this tank the Feed pump transfer the effluent to the first stage of MBBR and then to second MBBR and finally through the clarifier to outlet. The flow rate may be regulated manually by a ball valve in the influent. Otherwise no regulation is required.

B. Effluent Control

Samples should be taken and analyzed according to local regulation for BOD and COD. A correlation is to be established between BOD and COD values, and COD measurements to be used for regular operation control.

C. Blower Control

The blowers are continuously running at fixed revolution and shall provide a dissolved oxygen level in the 1st MBBR reactor of 3 mg/l. If DO control indicates systematic too low DO level, the belt transmission can be changed to step up the speed until a ratio of Po/Pd.

D. Sludge Control

The sludge may either be removed from the site, or returned to the septic tank or recycled in the system by an auto/manually operated sludge pump.

We recommend that the pump should continuously be returning the sludge to the septic tank. This will secure that there is sufficient flow through the system at all times to prevent freezing in the pipelines and it provides digestion of secondary sludge in the septic tank.

It the effluent control indicates that the amount of sludge in the effluent is increasing, a complete cleaning of the settling tank is required. The MBBR reactors are self-cleaning and require cleaning above the water level only.

E. Auto Control Logic

All switches to OFF position, Check drive motor and moving parts clear from any obstructions, all drive motors shaft rotate freely, all valves selected as per requirement. Pumps are primed.
Membrane Bio-Reactor Systems (MBR)

Offering a one-step process for water recycling through the removal of suspended solids and micro-organisms, our Membrane Bio-Reactor Systems help achieve 50% space savings with its economical operation footprint. Through the use of hollow fiber membrane technology, the Membrane Bio-Reactor System may be applied for treatment of sewage effluents and other waste streams with high COD or BOD. Our Membrane Bio-Reactor Systems are recommended for:

- Remote residential communities
- Estate and property maintenance management
- Cement production factories
- Mining operations
- Decentralized sewage treatment plants
- Industrial estates

**System Includes:**
- Compartmentalized Bioreactor (mild steel, epoxy coated)
- 6 x U860 Membrane Cartridges
- Feed and Backflush Pumps
- Circulation Pump
- 2 x Guard Filters
- Control Valves, Flow Meter and Pressure Gauge
- Aeration Diffusers and Blower
- PVC Piping, Hoses and Quick Couplings
- Electrical Control Panel with PLC

**Optional**
- Equalization Tank
  - Additional U860 membrane
  - UV Unit
  - Nano Filtration Unit
GEM SYSTEMS:

ETCH2O is changing the industry with its Gas Energy Mixing (“GEM”) System, a unique and sustainable treatment technology for the removal of TOTAL SUSPENDED SOLIDS (TSS), CHEMICAL OXYGEN DEMAND/BIOLOGICAL OXYGEN DEMAND (COD/BOD), and FATS, OIL, and GREASE (FOG). The GEM System is fundamentally better than traditional flotation technologies in three ways:

1. The Liquid Solid Gas Mixing (“LSGM”) Heads provide homogeneous mixing of liquid contaminants and chemistry resulting in reduced consumption and more efficient use of chemicals.

![Image of GEM System](image1.jpg)

2. The LSGM’s offer the flexibility to change the mixing energy to the specific wastewater characteristics and changing wastewater conditions.

![Image of GEM System](image2.jpg)

3. The GEM System saturates 100% of the wastewater stream with dissolved air and has the ability to control when the dissolved air is released from the water. This results in more enhanced and more efficient flotation of the contaminants.

APPLICATION:

Install a GEM System model 75/150.

System throughput will be calibrated to handle an minimum average flow of 159,000 gallons per day (equal to approx. 600 cubic meters per day) at 110 gallons per minute (gpm).

GEM System 75/150 has the flow capacity for a maximum daily flow of 210,000 gallons with minimal adjustments, and no additional capital expenditures to the GEM System.

Stream characteristics: Wastewater stream from PepsiCo facility in Saudi Arabia in need for a flotation system, for reduction of TSS and FOG.
BENEFITS OF GEM SYSTEM:

The GEM System’s capabilities will allow Client to follow the chemical regime and make the overall operation easy and successful, as well as presenting the Client with:

- Greater Contaminant Removal Rates
- Greater Chemical Efficiency
- Expandable –( loadings and flows)
- Drier Sludge
- Smaller Footprint
- Easy to Install
- Easily Relocated with a Forklift
- Stainless Steel Construction
- No maintenance issues
UF (ULTRAFILTRATION) SYSTEMS

Etch2O's UF systems are able to provide a safe and consistent water supply without the use of water purification chemicals, our Ultrafiltration Systems offer substantial cost savings and low logistical and operational requirements.

Our systems are capable of removing foreign particles, bacteria, spores and parasites. They attain a turbidity of less than 0.1 NTU, and have a high bacteria removal rate. The Ultrafiltration system is suitable for clarification of wastewater, river, well and surface water, as well as colloidal suspended solids separation.

Presented in a system with low power consumption, high durability and stability, our Ultrafiltration Systems are recommended for:

- Small, rural communities, town and villages
- General factories
- Slaughterhouses
- Manufacturing, F&B, textile, paper & pulp, hotels and resorts and various construction processes
- Humanitarian relief

System Includes:

- Feed and Backflush Pumps
- Control Valves
- Feed, Air and Backflush Pressure Gauges
- Product Flow Meter
- Air Blower
- Stainless or Galvanised Steel Frame
- PVC Piping, Hoses and Quick Couplings
- Electrical Control Panel with Controller

Optional

- Demo Tank (Transparent)
ULTRAFILTRATION MEMBRANES:

S860 Cartridge
(Ultrafiltration Membrane, Hollow Fibre)

S860 Cartridge
(Ultrafiltration Membrane, Hollow Fiber)
Sea Water Reverse Osmosis System

ETCH2O RO is designed on the best technology and is with high performance quality.

The ETCH2O Reverse Osmosis Declinators utilizes the latest in reverse osmosis membrane technology to convert Seawater, Brackish water, or non–potable water into drinking

Reverse Osmosis System is recommended for:

- Remote coastal residential communities
- Marine communities
- Estate and property maintenance management
- Mining operations

We are also specialized in providing the complete Operation and maintenance services for Reverse osmosis plants. water. All plants are customized to client’s specific need to secure reliable equipment and safe drinking water.

- Oil and gas operations
- Power plants
- Low conductivity water for industrial use.

System Includes:
- SRO ( 8040 ) Membrane
- Electrical Control Panel with PLC and D.O.L.
- Feed and Hi-Pressure Pumps
- Energy Recovery Unit
- Guard-Filter
- Manual & Electrical Solenoid Control Valve
- Pressure Gauges, Flow Meters
- Permeate Conductivity Meter

- System on Stainless Steel Rack, PVC & Stainless Steel Piping
- C.I.P Setup with Tank

Optional:
Customer can opt for system to be housed in Standard container

Recommended Pre Treatment:
Ultra-Filtration System
Sea Water Reverse Osmosis System

Offering high performance and reliability, our Reverse Osmosis Systems accomplish high salt rejection with high flow rates. Furthermore, our Reverse Osmosis Systems can be easily integrated with downstream treatments such as ultra-violet sterilization and chlorination to provide potable water for consumption. As such, choose our Reverse Osmosis Systems when treating sea and brackish water, rinsing water, irrigation water, cleaning water and cooling water for district cooling systems.

System Includes:
- 4 x SRO 4040 Sea Water Reverse Osmosis Membrane
- Electrical Control Panel with PLC and DOL Starter
- Feed and Hi-Pressure Pumps
- S430 Ultrafiltration Membrane
- Big Blue Cartridge Filter
- Feed Sea Water Filter Bag (Optional )
- Control Valves
- Pressure Gauges, Flow Meters
- Permeate Conductivity Meter
- System on Racking, PVC & Stainless Steel Piping
- C.I.P Setup with Tank
Brackish Water Reverse Osmosis System

**Standard System:**
- RO / NF Membrane (8040) Cartridge
- Electrical Control Panel with PLC and D.O.L. /Frequency-Controller
- Feed and Hi-Pressure Pumps
- 5μm Guard-Filters
- Manual & Electrical Solenoid Control Valve
- Pressure Gauges, Flow Meters
- Permeate Conductivity Meter
- System on Racking, PVC & Stainless Steel Piping
- C.I.P Setup with Tank

Note: Selection of membrane will depend on the application. Flow rate depends on the type of feed water
CHEMICAL DOSING PUMP/ SYSTEM

We fabricate optimum quality chemical dosing pumps and systems that offers correct quantity of dosing chemical in the stream. These chemical dosing pumps/systems are used in different chemicals such as acids, alkali, chlorine, anti-scalent, alum, SBS, polyelectrolyte and others. Moreover, we also have the ability to customize our range as specified by the clients.

OPERATION & MAINTENANCE SERVICES

ETCH2O SA is specialized for doing Operation and maintenance jobs for the waste water treatment plants and RO systems. We have been doing O&M activities for the treatment plants supplied by us and are capable of doing the same for any other treatment plants supplied by other companies.

The services include;

- Operation and maintenance of reverse osmosis and sewage treatment plants
- Spare parts change/up gradation for Sewage treatment plants and RO plants
- Membranes change for reverse osmosis plants.
- Chemical supplies for reverse osmosis plants and sewage treatment plants.
Glass Lined Steel Tanks (GLS Tanks)

We provide glass lined steel-tanks, silos and related accessories made in USA to the highest standards and in accordance with our customer’s wishes.
PART - D

PROJECTS PORTFOLIO

SIMILAR KEY PROJECTS
KEY PROJECTS - COMPLETED & ONGOING
MAJOR CLIENTS
ETCH2O'S WORK AT A GLANCE
INTERNATIONAL REFERENCES
AWARDS & CERTIFICATES
KEY APPROVED SUPPLIERS
MAJOR CLIENTS:

- PEPSI Cola Riyadh – (IWTP)
- PEPSI Cola Abha – (IWTP)
- PEPSI Al-Khobar – (IWTP)
- Qanbar Dewidag – (STP)
- Arabian Drilling – (STP)
- Precision Drilling – (STP)
- Al Muttawa Co – (STP)
- Parkson Corp – (STP)
- Oryx Engineering – (STP)
- Sinopec International – (STP)
- Coca Cola – (IWTP)
- Argas Co Ltd – (WWTP)
- Supreme Foods (IWWTP)
- Saudi German Hospital (GWTP)
ETCH2O'S WORK - AT A GLANCE
INTERNATIONAL REFERENCES

CHEVRON PETROCHEMICAL PLANT SOUTH AFRICA

1 1 Large customized WWTP implementing MBBR based on two streams total 4800 m3 per day 2x2400
EEC CUSTOMIZED LARGE SCALE WWTP - 4800 m3 per day: EEC with focus on package plants for wastewater also has the capacity to design large scale WWTP. The WWTP plant was constructed locally as per EEC specific design and calculations.

CHEVRONS APPLICATION. The plant capacity is 4800 m3/day. Influent: COD - 1100 mg/l - BOD - 520 mg/l - TSS - 150 mg/l - Ammonia - 30 mg/l - Phenol - 25 mg/l - Oil and Grease - 50 mg/l - sulfides - 25 mg/l –

FIAT MOTOR DIVISION BASIL

21CON-3 BOD Removal 120

FIAT AUTO PART DIVISION - GENERAL APPLICATION: After some negotiations and plant detailed study, the FIAT Auto Part division in San Bernardo SP State in Brazil engaged the EEC Group to construct a 21CON-3 EEC High-Speed Bio Tec. The daily flow is 120 m3 per day wastewater and all water to be recycled back for toilet flush water and general cleaning purposes. EEC delivered a turn key project including civil work. Are FIAT happy with our system operation and performance, you bet.

VIDEOLAR S/A VINDADE BASIL

18CON – 4 AMONIA & BOD REMOVAL

VIDEOLAR S/A UNIDADE - GENERAL APPLICATION: When extra clean water is requested, clients turn to the EEC Group. In this particular case the client needs to remove Ammonia to less than 10 ppm, flow capacity 80 m3 per day. EEC constructed a 18CON-4 EEC High-Speed Bio systems, tested, shipped, and started up the systems on time. Effluent objections was met in less than 20 days of operation. The EEC Package plants are fully automatic and require minimum maintenance and operational attention.
COIMPA INDUSTRIAL LTDA BASIL

11CON-4 Ammonia & BOD Removal
COIMPA INDUSTRIAL - GENERAL APPLICATION: When extra clean water is needed, clients turn to the EEC Group. In this particular case the client need to remove Ammonia to less than 10 ppm, hydraulic load is 30 m3 per day. EEC constructed a 11CON-4 EEC High-Speed Bio systems, tested, shipped, and started up the systems on time. Effluent objections was met in less than 20 days of operation. The EEC Package plants are fully automatic and require minimum maintenance and operational attention.

SMURFIT, MEXICO

SMURFIT, MEXICO - GENERAL APPLICATION: The client operates a plant in Mexico making cardboards. The wastewater flow is a mix of domestic wastewater and starch (glue), the influent loading is 14.000 ppm BOD, and effluent is 50 ppm BOD. Plant configuration; DAF, MBBR, AMB, and final settling. WWT plant design based on EEC High-Speed Bio Tec AMB Bio media, engineering, and construction by EEC. The EEC Package plants are fully automatic and require minimum maintenance and operational attention.

CHEMICAL FIBER PLANT, CHINA

CHEMICAL FIBER PLANT CHINA - GENERAL APPLICATION: They called it "Black Water" and it comes from their cotton washing process. The wastewater has a strong smell, it is heavily loaded with caustic and it is black and nasty. Hydraulic load of 500 m3 per day, BOD influent 40.000 ppm and we must comply to an effluent less than 500 ppm after bio treatment. They wanted the water to be re-used for the washing processes. EEC solved this problem by implementing both the EEC Bio System and the EEC Waste Sep, our industrial membrane system. Installation took place 17 years ago, in 1988, the plant met all r clean water was recycled back to the washing process.
AWARDS & CERTIFICATES

ISO 9001:2015 Quality Management system:
Project management, Maintenance and After Sales Services of Waste Water Treatment Plants

HILTON SEYCHELLES, NORTHOLME RESORT: Appreciation Letter

HOLLAND AMERICA LINE: Performance Certificate

ARGAS KSA : Performance Certificate

WESTMARK HOTELS : National Pollutant Discharge Elimination System (NPDES) – Discharge Monitoring Report (DMR)

MD DEPARTMENT OF THE ENVIRONMENT: Ground Water Discharge Permit

DYNAMIC AQUA SCIENCE IND E COM LTDA: Performance Certificate

AR TECHNIC ROMANIA: Performance Certificate

CALIFORNIA REGIONAL QUALITY CONTROL BOARD: Effluent Discharge Certificate

KBR GOVERNMENT AND INFRASTRUCTURE: Performance Certificate.
PERFORMANCE CERTIFICATE

Presented to:

EEC Saudi Arabia

Date: 10th November 2009.

Function: Water Treatment Plant, System 1 x 39 Con 3

Installation period: One year from date

We acknowledge that we have been using the subject waste water treatment plant at our camp S-59, Safanayah (Saudi Arabia) for the treatment of our domestic waste of 150 cubic meter / day.

Biologically and mechanically the plant has operated satisfactorily. However we did encounter problems in the early days with the plant not meeting Aramco spec. This was brought to the attention of EEC who responded immediately and rectified the problem. Since then Discharge water dissolved oxygen has always been comfortably within Aramco requirements.

All valves and pumps are easy to repair and maintain. We have experienced some minor problems with Blowers and Pumps but again EEC have responded to our request for maintenance. Since then Pumps and blowers have proved reliable once the plant settled down to full operation and are well suited to their applications.

Control panel is easy to understand with easy access for repairs and maintenance. Mechanical operations are simple and require minimal operator involvement.

We would recommend the technology and quality of the plant; it is EEC customer support that we value the most. They, in particular Mohammed Fahd, are readily available to assist in any way needed. Never more than a phone call or email away, they have been able to either help with any problem or get me in contact with someone who could. Very reasonable to work with, they are always willing to listen to the operator and come up with solutions.

Mike Smith.

Technical Support Supervisor.
PERFROMANCE CERTIFICATE

PRESENTED TO: EEC SAUDI ARABIA

DATE: 7th August, 2011

EQUIPMENT: Water Treatment Plant Model 15 CON3 with Buffer cum Sludge Tank Trailer Mounted with a capacity of treating 125 m³ per day waste water.

INSTALLATION PERIOD: 15 months from date

We are happy to report that the treatment plant supplied and installed by EEC Saudi Arabia at our camps in Shaybah Saudi Arabia - Aramco Project is meeting the requirements and has been performing well. The analysis of final effluent being discharged has shown constant satisfying results especially with the BOD, COD and TSS. The discharge characteristics have always been within the stringent ARAMCO effluent discharge requirements.

The training offered by EEC’s engineer enhanced the knowledge of our operators and enabled them to maintain the system at ease. There were no incidents of breakdown of the equipment so far. Above all we appreciate the fact that EEC staff was always there when their assistance was required.

We wish EEC Saudi Arabia success and hope to continue with them our business relationship.

YAN SHIZHONG
Operation Manager
Sinopec Geophysical Department
CERTIFICATE ON PERFORMANCE

Presented to:

EEC Saudi Arabia

Date: 15th February, 2010.

EQUIPMENT: Water Treatment Plant, System 5 x 39 Con 3+5 X buffer tank + 3 X sludge tank (2000 m3/day) with oil separator.

Installation period: 10 Months from date

We are happy to report that the unit supplied and installed by you at our project in 2nd industrial area in Dammam, Eastern Province (Saudi Arabia) is giving good performance. The analysis of final discharge of effluent consistently showed total satisfying results especially with regard to COD and BOD. The training offered by your engineer imparted thorough knowledge to our operators and enabled them to maintain the system at ease. There is no incident of breakdown of equipment so far. Above all we appreciate the fact that EEC was very prompt to support us whenever needed.

We wish you every success and hope that you will never dilute your commitment to customer support in future as well.

For ORYX ENGINEERING & CONSULTANCY PVT. LTD.

Achanaril Varghese John

General Manager
## APPROVED SUPPLIERS

<table>
<thead>
<tr>
<th>Contact Details</th>
<th>Location</th>
<th>Category</th>
<th>Company</th>
<th>S. No</th>
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<tr>
<td>Tel: +966 3-8176300</td>
<td>Dammam</td>
<td>Mechanical</td>
<td>Bassem Ballout Trading Est</td>
<td>1</td>
</tr>
<tr>
<td>Tel: +966 3-8946553</td>
<td>Khobar</td>
<td>Electrical &amp; Mechanical</td>
<td>Al. Khobar City Electrical Trading</td>
<td>2</td>
</tr>
<tr>
<td>Tel: +966 1-2922527/28</td>
<td>Riyadh</td>
<td>Mechanical</td>
<td>Rawabi Al-Mahfar</td>
<td>3</td>
</tr>
<tr>
<td>Tel: +966 3-8944 177</td>
<td>Khobar</td>
<td>Mechanical &amp; Electrical</td>
<td>Ibrahim Y.M.Trad</td>
<td>4</td>
</tr>
<tr>
<td>Tel: +966 3-8644958</td>
<td>Khobar</td>
<td>Mechanical &amp; Electrical</td>
<td>Noor Al-Shomoe Est.</td>
<td>5</td>
</tr>
<tr>
<td>Tel: +966 3-8260119</td>
<td>Dammam</td>
<td>Electrical &amp; Mechanical</td>
<td>Abdullah M.Al Binali Bros</td>
<td>6</td>
</tr>
<tr>
<td>Tel: +966 3-8303405</td>
<td>Dammam</td>
<td>Electrical &amp; Mechanical</td>
<td>Faisal Ali Jalalma Trade</td>
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<tr>
<td>Tel: +966 3-8984045</td>
<td>Khobar</td>
<td>Fabrication Facility</td>
<td>Abahasan Specialized Industrial Co</td>
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<tr>
<td>Tel: +966 3-8823550</td>
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<td>Fabrication Facility</td>
<td>Yousef Turnery</td>
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<tr>
<td>Tel: +966 3-882-5700</td>
<td>Khobar</td>
<td>Fabrication Facility</td>
<td>Saudi Arabian Fabricated Metal Industries</td>
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<td>Tel: +966 3-341 0240</td>
<td>Khobar</td>
<td>Fabrication Facility</td>
<td>Arabian Metal Product Org</td>
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<tr>
<td>Tel: +91 22 28320514</td>
<td>India</td>
<td>Electrical &amp; Mechanical</td>
<td>RAICO Engineers</td>
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<tr>
<td>Tel: +91 11 2411 1092</td>
<td>India</td>
<td>Electrical &amp; Mechanical</td>
<td>ETCH2O – INDIA</td>
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</tr>
<tr>
<td>Tel: 081-607-4844</td>
<td>Thailand</td>
<td>Electrical &amp; Mechanical</td>
<td>ETCH2O – Thailand</td>
<td>14</td>
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</tbody>
</table>
PART - E

QHSE PROGRAM

QUALITY POLICY
QUALITY CONTROL PROGRAM
QMS MANUAL
HSE POLICY
SAFETY PROCEDURES
ETCH2O QUALITY POLICY

**ETCH2O is ISO 9001: 2015 certified company with certification scope in Project management, Maintenance and After Sales Services of waste Water Treatment Plants.**

Environmental Equipment Company is committed to comply with the requirement of client /customers and to continually improve the effectiveness of the Quality Management System. It must be clearly understood that this Quality Policy, Quality Manual and associated Operating Procedure and systems are mandatory on all staff.

The top management of Environmental Equipment Company is fully committed to the Document Quality Management System in the principle of providing services of consistently high quality in safe manner to the complete satisfaction of its clients. The operation of the Quality System is subject to continuous review at the highest management level, to ensure that the established standards are maintained and improved wherever necessary.

Environmental Equipment Company has introduced system that will set and review quality objectives. The Management actively encourages all personal commitment to Quality and to accept the responsibility for the achievement of the highest standards of workmanship, to enhance the reputation of the establishment.

“QUALITY IS EVERYBODY’S RESPONSIBILITY”
QUALITY CONTROL PROGRAM

1- Preventive Inspection:
- Preparatory inspection will be performed on all plant, material, equipment and safety auxiliaries to meet submittal and contract requirements.

- The contractor will appropriately annotate in his quality control reports all preparatory inspection with a detailed list of items of plant equipments and material inspected or tested findings relative to compliance with approvals, contractor’s certified submittals and contract requirements, and action taken where non-compliance is committed.

- In addition during preparatory inspections, the contractor will make an examination of the work area to ensure that all preliminary work has been completed check and ensure that the provision have been made to provide the required control testing, and take necessary action to ensure that all plant equipment and materials are properly stored to prevent damage from the elements and construction operation, and will be noted on the quality control report.

2- Initial Inspection:
- Initial inspection shall be performed at the start of each new phase of construction of establish methods, techniques and standards of workmanship in strict compliance with the contract requirements.

- The contractor shall appropriately annotate in the quality control reports all initial inspections performed including a detailed description and location of the segment of phase of work inspected and shall check test and measurements made to determine whether the quality of construction conforms to the tolerance and workmanship standards of the contract requirements.

- The names of personnel who participated in the initial inspection shall be listed on the quality control reports.

- Test result will be documented and evaluated to assure that the test requirements have been satisfied.

- Names of all personnel’s who participated in each preparatory inspection shall be listed on the quality control reports.

3- Follow-Up Inspection:
   a. If rejected, as follow-up inspection will be performed to ensure that the construction is moving in accordance with the contract requirements.
4- **Special Processes:**

b. All special processes shall be performed by qualified worker.

c. Pressure/Non-destructive test will proceed in accordance with the specifications and to be witness by engineer/representative

d. All test results will be documented, recorded on file to ensure that each phase of work shall have the record and, accepted and approved by representative engineer.

5- **Inspection Program:**

The contractor shall perform examinations, measurement and test of material or products processed for each work operation where necessary to assure conformance with the requirements.

When mandatory inspection hold points are required. The specific hold points are indicated in the appropriate documents. Work will not proceed beyond these specified hold points without rectification and consent of the construction manager.

Surveillance shall be performed by the contractor in addition to inspection for process monitoring of on-going work activities thereby providing added assurance of compliance with project requirements during each contractor phase.

6- **Non Conformance Report:**

If there is a failure in any test, the contractor will submit non-conformance report (NCR) for a re-test/network and note it as corrected.
CERTIFYING SHOP DRAWINGS, SAMPLES, Etc.

The procedure to be followed in certifying shop drawings, samples and other necessary supporting documents to ensure the quality of construction materials and workmanship shall be as follows;

a) The quality control dept shall review the shop drawings will also certify that the submitted items have been reviewed in details, correct and in strict conformance with the contract requirements and specification, except as otherwise noted.

The following action will be taken on shop drawings etc. by the Engineer prior to distribution to the field for construction use.

a) Ensure all documents with regards to submittals must be properly stamped.
b) Approved shop drawings and other submittals shall always be available at the site and that the site representative of the engineer has free access to all documentation.
c) In case where the construction activities do not meet the requirements of the contact specifications, corrective action on the workmanship shall be taken by the contractor at his own expenses.
d) Drawings drafted by draftsman will be checked by the responsible engineer and the project manager will do final check and sign them on the title block prior to submission for approval.

DOCUMENTING INSPECTION ACTTIVITIES/TESTING

Quality control report will be prepared by the quality control engineer who would comprise of activities related to inspection and testing of the system.

Quality Control report will be review by the project manager to ensure that all the equipment used and works performed during the reporting period are in strict conformance with the contract plans and specification except as may be noted on the report before submittal.

The quality control report will indicated in detail, the equipment test and corrective action taken and other attachment such as equipment testing checklist and supporting documents.
# QUALITY SYSTEM MANUAL

Environmental Equipment Company (ETCH2O)

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<thead>
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<th>Description</th>
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<td>3</td>
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<td></td>
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<td>4</td>
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<td>5</td>
<td>Issued to:</td>
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<tr>
<th>Activity</th>
<th>Name / Designation</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Prepared by</td>
<td>Abdullah, Operations Manager</td>
<td></td>
</tr>
<tr>
<td>Reviewed by</td>
<td>Muhammad Arshad, Projects Manager</td>
<td></td>
</tr>
<tr>
<td>Approved by</td>
<td>Muhammad Rana Zahid, General Manager</td>
<td></td>
</tr>
</tbody>
</table>

Quality System Manual is the property of ETCH2O and must be treated confidentially. It must not be duplicated in any form whatsoever, even in extracts, without the written permission of the Management of ETCH2O.
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   4.2 Understanding the Needs and Expectations of Interested Parties.
   4.3 Determining the Scope of the Quality Management System
   4.4 Scope of Registration
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General

Environmental Equipment Co. (EEC) initiated its business on the basis of providing the Oil, Gas and Petrochemical industries with the newest technologies.

The success of EEC is based on a strong work ethic and our priority to retain and build on our relationships with our clients through Quality of Product & Service, Supply of Positive and Productive new technologies, Safety of Our Operations, Speed of Response and Flexibility. In support of this philosophy we have a strong management team with a wealth of knowledge and experience then you can keep the rest as it is.

We provides 20 years of Unmatched Services In Oil & Gas, Petrochemical, Power and Telecom For Turnkey Electro-Mechanical Projects, Industrial Support Services.

Since our establishment EEC has played an important role in executing number of Projects as Turnkey Project Executer, Civil Structural, Mechanical Piping, Electrical & Instrumentation sector and Quality Material Supplier.

We are having a strong QA / QC departmental system, which is inextricably intertwined with every process within its system.

We understand the importance of prompt quote response, quality Production and on time delivery. Environmental Equipment Co. (EEC) has achieved customer loyalty by practicing a policy of strong communication and working closely with customers to deliver to their exact specifications.

Environmental Equipment Co. (EEC)
P.O. Box: 30655, Al Khobar - 31952 Saudi Arabia
Tel : +138649300
Fax : +138647779
Kingdom of Saudi Arabia
This Quality Manual specifies requirements that Environmental Equipment Co. (EEC) uses to address customer satisfaction, to meet customer and applicable regulatory and statutory requirements and to meet ISO 9001:2015 requirements, and is supported by additional procedures where necessary. The quality management principles stated in ISO 9000, and ISO 9001, have been taken into consideration during the development of this Quality Policy Manual. This Quality Manual specifies the general requirements for Environmental Equipment Co. (EEC) competence towards a management system for quality, administrative and technical operations.

1. Scope

This Quality Manual specifies requirements for a quality management system where Environmental Equipment Co. (EEC)

a) Needs to demonstrate its ability to consistently provide product and services that meet customer and applicable statutory and regulatory requirements, and

b) Aims to enhance customer satisfaction through the effective application of the system, including processes for improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.

All the requirements of this ISO 9001:2015 are generic and are intended to be applicable to any organization, regardless of its type or size, or the products and services it provides; The EEC quality Management System includes business processes defined in this manual as below.

Main business processes;

- Determining the organization context, identifying relevant issues & providing strategic direction in the manufacturing of pressure vessel heads, dish end, cones and pressure parts.
- Demonstrating the leadership and commitment.
- Planning- determining risks and opportunities need to be addressed.
- Support- Ensuring resources aligned to actions to risks and opportunities.
- Operation- Implementing processes and actions as determined.
  Support processes;
- Performance Evaluation
- Improvement

This document is available to all EEC Heads personnel, customers, and representatives of ISO Quality Registrar.

EECs heads encompass all the specified requirements outlined in ISO9001-2015 with exclusion of design and development of product and services.
Development criteria. Hence the requirements defined in the clause 8.3 design and development of the ISO9001-2015 is not applicable to EEC quality management system.

2. Normative References

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. ISO 9001:2015, Quality management systems — Fundamentals and vocabulary.

LIST OF ABBREVIATIONS USED

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>EEC</td>
<td>Environmental Equipment Co. (EEC)</td>
</tr>
<tr>
<td>GM</td>
<td>General Manager</td>
</tr>
<tr>
<td>HRM</td>
<td>Human Resource Manager</td>
</tr>
<tr>
<td>QC</td>
<td>Quality Controller</td>
</tr>
<tr>
<td>SM</td>
<td>Sales Manager</td>
</tr>
<tr>
<td>PM</td>
<td>Production Manager</td>
</tr>
<tr>
<td>FM</td>
<td>Finance Manager</td>
</tr>
<tr>
<td>Pur. M</td>
<td>Purchasing Manager</td>
</tr>
<tr>
<td>OM</td>
<td>Operations Manager</td>
</tr>
<tr>
<td>NCR</td>
<td>Non-Conformance Report</td>
</tr>
<tr>
<td>CAR</td>
<td>Corrective Action Report</td>
</tr>
<tr>
<td>CPAR</td>
<td>Corrective and Preventive Action Report</td>
</tr>
<tr>
<td>QMS</td>
<td>Quality Management System</td>
</tr>
<tr>
<td>PD</td>
<td>Process Description</td>
</tr>
<tr>
<td>Mgt</td>
<td>Management</td>
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</table>
3. Terms and Definitions

3.1 Terms Relating to Quality

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Quality</td>
<td>Ability of a set of inherent characteristics of a product, system or process to fulfill requirements of customers and other interested parties.</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Customer’s opinion of the degree to which a transaction has met the customer’s needs and expectations.</td>
</tr>
<tr>
<td>Capability</td>
<td>Ability of an organization, system, or process to realize a product that fulfils the requirements for that product.</td>
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3.2 Terms Relating to Management

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<tbody>
<tr>
<td>Management System</td>
<td>System to establish policy and objectives and to achieve those objectives.</td>
</tr>
<tr>
<td>Quality Management System</td>
<td>System to establish a quality policy and quality objectives and to achieve those objectives.</td>
</tr>
<tr>
<td>Quality Policy</td>
<td>Overall intentions and direction of an organization related to quality as formally expressed by to management.</td>
</tr>
<tr>
<td>Quality Objectives</td>
<td>Something sought, or aimed for related to quality.</td>
</tr>
<tr>
<td>Quality Planning</td>
<td>Part of quality management focused on setting quality objectives and specifying necessary operational processes and related resources to fulfill the quality objectives.</td>
</tr>
<tr>
<td>Quality Control</td>
<td>Part of quality management, focused on fulfilling quality requirements.</td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>Part of quality management, focused on providing confidence that quality requirements shall be fulfilled.</td>
</tr>
<tr>
<td>Quality Improvement</td>
<td>Part of quality management, focused on increasing effectiveness and efficiency.</td>
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3.3 Terms Relating to Organization

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<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Organizational Structure</td>
<td>Orderly arrangement of responsibilities, authorities and relationships between staff of a company.</td>
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<tr>
<td>Work Environment</td>
<td>Set of conditions under which a person operates.</td>
</tr>
<tr>
<td>Customer</td>
<td>Organization or person that receives a product.</td>
</tr>
<tr>
<td>Supplier</td>
<td>Organization or product that provides a product.</td>
</tr>
<tr>
<td>Interested Property</td>
<td>Person or group having an interest in the performance or success of an organization.</td>
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3.4 Terms Relating to Process and Product

<table>
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<th>Term</th>
<th>Definition</th>
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<tr>
<td>Process</td>
<td>System of activities which uses resources to transform inputs into outputs.</td>
</tr>
<tr>
<td>Product</td>
<td>Result of a process.</td>
</tr>
<tr>
<td>Service</td>
<td>Intangible product that is the result of at least one activity performed at the interface between the supplier and customer.</td>
</tr>
<tr>
<td>Design and Development</td>
<td>Set of processes that transform requirements into specified characteristics and into the specifications of the product realization process.</td>
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</table>

3.5 Terms Relating to Characteristic

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<tr>
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<th>Definition</th>
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<tbody>
<tr>
<td>Quality Characteristics</td>
<td>Inherent characteristics of a product, process, or system derived from a requirement.</td>
</tr>
<tr>
<td>Traceability</td>
<td>Ability to trace the history, application or location of that which is under consideration.</td>
</tr>
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### 3.6 Terms Relating to Conformity

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Conformity</td>
<td>Fulfillment of a requirement.</td>
</tr>
<tr>
<td>Non-conformity</td>
<td>Non-fulfillment of a requirement.</td>
</tr>
<tr>
<td>Preventive Action</td>
<td>Action taken to eliminate the causes of a potential non-conformity or other potentially undesirable situation.</td>
</tr>
<tr>
<td>Corrective Action</td>
<td>Action taken to eliminate the cause of a detected nonconformity or other undesirable situation.</td>
</tr>
<tr>
<td>Correction</td>
<td>Action taken to eliminate a detected nonconformity.</td>
</tr>
<tr>
<td>Concession</td>
<td>Authorization to use or release a product that does not conform to the specified requirements.</td>
</tr>
<tr>
<td>Release</td>
<td>Authorization to proceed to the next stage of a process.</td>
</tr>
<tr>
<td>Repair</td>
<td>Action taken on a non-conforming to make it acceptable for the intended use.</td>
</tr>
<tr>
<td>Rework</td>
<td>Action taken on a non-conforming product to make it conform to the requirements.</td>
</tr>
<tr>
<td>Re-grade</td>
<td>Alteration of the grade of a non-conforming product in order to make it conformant with requirements differing from the initial ones.</td>
</tr>
<tr>
<td>Scrap</td>
<td>Action taken on a non-conforming product to preclude its originally intended usage.</td>
</tr>
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### 3.7 Terms Relating to Document

<table>
<thead>
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<th>Term</th>
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</thead>
<tbody>
<tr>
<td>Document</td>
<td>Information and its support medium.</td>
</tr>
<tr>
<td>Specification</td>
<td>Document stating requirements.</td>
</tr>
<tr>
<td>Guideline</td>
<td>Document stating recommendations or suggestions.</td>
</tr>
<tr>
<td>Quality Manual</td>
<td>Document stating the quality management system of an organization.</td>
</tr>
<tr>
<td>Quality Plan</td>
<td>Document specifying the quality management system elements and the resources to be applied in a specific case.</td>
</tr>
<tr>
<td>Procedure</td>
<td>Specified way to perform an activity or a process.</td>
</tr>
<tr>
<td>Record</td>
<td>Document stating results achieved or providing evidence of activities performed.</td>
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### 3.8 Terms Relating to Examination

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Objective Evidence</td>
<td>Data supporting the existence or verity of something.</td>
</tr>
<tr>
<td>Inspection</td>
<td>Conformity evaluation by observation and judgment accompanied as appropriate by measurement, testing or gauging.</td>
</tr>
<tr>
<td>Verification</td>
<td>Confirmation and provision of objective evidence that specified requirements have been fulfilled.</td>
</tr>
<tr>
<td>Validation</td>
<td>Confirmation and provision of objective evidence that the requirements for a specific intended use or application have been fulfilled.</td>
</tr>
</tbody>
</table>

### 3.9 Terms Relating to Audit

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit</td>
<td>Systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which the audit criteria shall be fulfilled.</td>
</tr>
<tr>
<td>Audit Program</td>
<td>Set of audits to be carried out during a planned time.</td>
</tr>
<tr>
<td>Audit Scope</td>
<td>Extent and range of a given audit.</td>
</tr>
<tr>
<td>Audit Criteria</td>
<td>Set of policies, procedures, or requirements against which collected audit evidence is compared.</td>
</tr>
<tr>
<td>Audit Evidence</td>
<td>Records, verified statements of fact or other information relevant to the audit.</td>
</tr>
</tbody>
</table>
## Audit Findings
Results of the evaluation of the collected audit evidence against audit criteria.

## Audit Conclusions
Outcome of an audit decided by the audit team after consideration of all the audit findings.

## Auditee
Organization person being audited.

## Audit Team
One or more auditors conducting an audit, one of whom is appointed as leader.

## Auditor
Person qualified from a certification body to conduct audits.

### 3.10 Terms Relating to Quality Assurance for Measurement Processes

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>Set of operations having the object of determining the value of a quantity.</td>
</tr>
<tr>
<td>Measurement Process</td>
<td>Set of interrelated resources, activities, and influences related to a measurement.</td>
</tr>
<tr>
<td>Measurement Control System</td>
<td>Set of operations necessary related to achieve meteorological confirmation and continuous control of measurement processes.</td>
</tr>
<tr>
<td>Measuring Equipment</td>
<td>Instrument, measurement standard, reference material and/or auxiliary apparatus necessary to implement a measurement process for carrying out a specified and defined measurement.</td>
</tr>
</tbody>
</table>
4. Context of the Organization

4.1 Understanding the Organization and its Context

Environmental Equipment Co. (EEC) has determined external and internal issues that are relevant to its purpose and its strategic direction and that affect its ability to achieve the intended result(s) of its quality management system. Environmental Equipment Co. (EEC) monitors and reviews information about these external and internal issues.

EEC shall monitor and review the information about the external and internal issues periodically with a focus on below issues.

a) Positive and negative factors or conditions arising out of review.
b) Technology upgradation as required.
c) Market information, upcoming projects.
d) Competitors Information
e) Economic environment
f) Manpower.

4.2 Understanding the Needs and Expectations of Interested Parties

Due to their effect or potential effect on Environmental Equipment Co. (EEC) ability to consistently provide products The needs and expectations of interested parties can effect or potentially effect EEC ability in constantly providing products and services that meet customer and applicable Statutory & regulatory requirements.

Hence EEC shall determine that;

a) The interested parties are relevant to the Quality Management system.
b) The requirements of these interested parties are relevant to Quality Management system.
c) The information about the interested parties and their requirements shall be monitored & regularly reviewed.

4.3 Determining the Scope of the Quality Management System

EEC shall determine the boundaries and applicability of the Quality Management System to establish the scope considering;

a) The internal and external issues
b) The requirements of interested parties
c) Its product and services.

All the requirements of ISO 9001:2015 as determined in the scope of this manual with justifications for exclusions are applicable for the quality management system that is maintained as a Documented information.

It shall be ensured that the requirements of ISO 9001:2015 standards determined as not applicable shall not affect EEC ability or responsibility in ensuring the conformity of products and services and the enhancement of customer satisfaction.

Scope of Registration

The Scope associated with Environmental Equipment Co. (EEC) activities and registration is:

Civil, Electrical, Mechanical Contracting And Trading.
4.4 Quality Management System and its Processes

4.4.1 Environmental Equipment Co. (EEC) has established, implemented, maintains, and continually improves a quality management system, including the processes needed and their interactions, in accordance with the requirements of this International Standard. Environmental Equipment Co. (EEC) has determined the processes needed for the quality management system and their application throughout Environmental Equipment Co. (EEC) and
a) Determined the inputs required and the outputs expected from these processes;
b) Determined the sequence and interaction of these processes;
c) Determined and applied the criteria and methods (including monitoring, measurements and related performance indicators) needed to ensure the effective operation and control of these processes;
d) Determined the resources needed for these processes and ensure their availability;
e) Assigns the responsibilities and authorities for these processes;
f) Addresses the risks and opportunities as determined in accordance with the requirements of 6.1;
g) Evaluates these processes and implement any changes needed to ensure that these processes achieve their intended results.
h) Improves the processes and the quality management system.

4.4.2 To the extent necessary, Environmental Equipment Co. (EEC)
a) Maintains documented information to support the operation of its processes (See procedure list)
b) Retain documented information to have confidence that the processes are being carried out as planned (See Records Table).
5. Leadership

5.1 Leadership and Commitment

5.1.1 General

Top management of EEC demonstrates leadership and commitment with respect to the quality management system by:

a) Taking accountability for the effectiveness of the quality management system;
b) Ensuring that the quality policy and quality objectiveness are established for the quality management system and are compatible with the context and strategic direction of Environmental Equipment Co. (EEC);
c) Ensuring the integration of the quality management system requirements into Environmental Equipment Co. (EEC) Business process;
d) Promoting the use of the process approach and risk-based thinking;
e) Ensuring that the resources needed for the quality management system are available;
f) Communicating the importance of effective quality management and of conforming to the quality management system requirements;
g) Ensuring that the quality management system achieves its intended results;
h) Engaging, directing and supporting persons to contribute to the effectiveness of the quality management system;
i) Promoting improvement; and
j) Supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

5.1.2 Customer Focus

EEC Top management demonstrates leadership and commitment with respect to customer focus by ensuring that:

a) Customer and applicable statutory and regulatory requirements are determined, understood and consistently met;
b) The risks and opportunities that can affect conformity of products and services and the ability to enhance customer satisfaction are determined and addressed; and

c) The focus on enhancing customer satisfaction is maintained.

5.2 Policy

5.2.1 Developing the Quality Policy

Top management EEC has established, implemented and maintains a quality policy that:

a) Is appropriate to the purpose and context of Environmental Equipment Co. (EEC) and supports its strategic direction;
b) Provides a framework for setting quality objectives;
c) Includes a commitment to satisfy applicable requirements; and

d) Includes a commitment to continual improvement of the quality management system.
5.2.2 Communicating the Quality Policy
The Quality Policy of Environmental Equipment Co. (EEC) is available and maintained as documented information and communicated, understood and applied within the organization; and is available to relevant interested parties, as appropriate.

Quality Policy:
To ensure Quality is present from inception to completion in all that we do...

Environmental Equipment Co. (EEC) Provides and Continually Improves Quality-of-Production and Services, On-Time Delivery and the Overall Service Experience While Meeting or Exceeding the Requirements and Expectations of Our Customers. Environmental Equipment Co. (EEC) Commits to Review the Continued Suitability of This Policy, Promotes this Throughout the Organization, Assures Compliance with All Requirements and Continually Maintains the Effectiveness of the QMS System.

5.3 Organizational Roles, Responsibilities, and Authorities
EEC Top management ensures that the responsibilities and authorities for relevant roles are assigned, communicated and understood within Environmental Equipment Co. (EEC) Top management assigns the responsibility and authority for:

a) Ensuring that the quality management system conforms to the requirements of this International Standard ISO 9001:2015;
b) Ensuring that the processes are delivering their intended outputs;
c) Reporting on the performance of the quality management system and on opportunities for improvement (see 10.1), in particular to top management;
d) Ensuring the promotion of customer focus throughout Environmental Equipment Co. (EEC) and
e) Ensuring that the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.
6. Planning

6.1 Actions to Address Risks and Opportunities

6.1.1 Environmental Equipment Co. (EEC) shall plan its Quality Management system considering issues as referred in organization context and the requirements of interested parties while determining the risks and opportunities with actions on below as a minimum;

1) To ensure that the Quality Management system can achieve the intended results.
2) To enhance the desirable effects
3) Prevent, change or reduce undesired effects
4) Achieve improvement

6.1.2 Environmental Equipment Co. (EEC) plans:

The planning shall address actions for risks and opportunities. These actions shall be integrated and implemented into the Quality Management system & the effectiveness shall be evaluated. While addressing actions on risks options like avoiding risks, taking or retaining risks with informed decision to pursue opportunity, eliminating source of risk, changing the likelihood or consequences or sharing the risk shall be considered.

While pursuing the opportunities options like adoption of new practices, launching new Production Process, opening for new markets, new customers, building partnership, new technology any other viable possibilities that can address organization or customer needs shall be considered.

6.2 Quality Objectives and Planning

In order to Achieve Them EEC shall establish measurable quality objectives consistent with Quality policy at relevant functions & processes mainly in following areas.

- Earn customer recognition through continual quality progress;
- Measure quality performance and evaluate compliance with customer service level agreements;
- Operate efficiently to reduce overall operating costs;
- Recognize each employee's responsibility for quality;
- Seek out and upgrade technologies for improvement and assuring error-free work;
- Empower employees to make recommendations and question processes, which may produce production and service nonconformity.

The quality objectives shall be in line with applicable requirements, relevant to the conformity of the production and services with a focus on enhancing customer satisfaction.

The quality objectives shall be communicated updated appropriately and the progress achieved shall be monitored. The quality objectives shall be maintained as documented information.

In the process of planning to achieve the quality objective the responsibility, resources required, time bound action required and means for evaluating results shall be determined. The documented information shall be maintained.
6.3 Planning of Changes

When Environmental Equipment Co. (EEC) determines the need for changes to the quality management system, the changes are carried out in a planned manner (see 4.4).

Environmental Equipment Co. (EEC) considers:

a) The purpose of the changes and their potential consequences;
b) The integrity of the quality management system;
c) The availability of resources; and
d) The allocation or reallocation of responsibilities and authorities.

7. Support

7.1 Resources
7.1.1 General
Environmental Equipment Co. (EEC) determines and provides the resources needed for the establishment, implementation, maintenance and continual improvement of the quality management system. Environmental Equipment Co. (EEC) considers: The capabilities of and constraints on existing internal resources; and What needs to be obtained from the external providers.

7.1.2 People
Environmental Equipment Co. (EEC) determines and provides the persons necessary for the effective implementation of its quality management system and for the operation and control of its processes.

7.1.3 Infrastructure
Environmental Equipment Co. (EEC) determines, provides, and maintains the environment necessary for the operation of its processes and to achieve conformity of production and services.  
a) Buildings and associated utilities;
b) Equipment, including hardware and software;
c) Transportation resources; and
d) Information and communication technology.

7.1.4 Environment for the Operation of Processes
Environmental Equipment Co. (EEC) determines, provides and maintains the environment necessary for the operation of its processes and to achieve conformity of production and services.
a) Social (e.g. non-discriminatory, calm, non-confrontational);
b) Psychological (e.g. stress reducing, burnout prevention, emotionally protective);
c) Physical (e.g. temperature, heat, humidity, light, airflow, hygiene, noise). These factors can differ substantially depending on the production and services provided.
7.1.5 Monitoring and Measuring Resources

7.1.5.1 General
Environmental Equipment Co. (EEC) determines and provides the resources needed to ensure valid and reliable results when monitoring or measuring is used to verify the conformity of products and services to requirements. Environmental Equipment Co. (EEC) ensures that the resources provided:

a) Are suitable for the specific type of monitoring and measurement activities being undertaken; and
b) Are maintained to ensure their continuing fitness for their purpose.

Environmental Equipment Co. (EEC) retains appropriate documented information as evidence of fitness for purpose of the monitoring and measurement resources.

7.1.5.2 Measurement Traceability
When measurement traceability is a requirement, or is considered by Environmental Equipment Co. (EEC) to be an essential part of providing confidence in the validity of measurement results, measuring equipment are:

a) Calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; when no such standard exist, the basis used for calibration or verification is retained as documented information;
b) Identified in order to determine their status; and
c) Safeguarded from adjustments, damage or deterioration that would invalidate the calibration status and subsequent measurement results.

Environmental Equipment Co. (EEC) determines if the validity of previous measurement results has been adversely affected when measuring equipment is found to be unfit for its intended purpose, and takes appropriate action as necessary.

7.1.6 Organizational Knowledge
Environmental Equipment Co. (EEC) determines the knowledge necessary for the operation of its processes and to achieve conformity of production and services.

This knowledge is maintained and made available to the extent necessary.

When addressing changing needs and trends, Environmental Equipment Co. (EEC) considers its current knowledge and determines how to acquire or access any necessary additional knowledge and required updates.

7.2 Competence
Environmental Equipment Co. (EEC) shall determine & maintain documented information to ensure that all personnel who manage, perform, or verify activities within QMS affecting conformity to production requirements are qualified and competent to establish minimum requirements for that function on the basis of appropriate education, training, skills, experience and other recognized criteria.

Environmental Equipment Co. (EEC) determines the necessary competence for personnel performing activities affecting conformity to product requirements and provides training or similar actions to ensure and satisfy the required needs. Any actions taken to improve the competence and/or training are evaluated to ensure compliance.

7.3 Awareness
All personnel are made aware of the relevance and importance of their activities, quality Policy and their contribution to the achievement of the quality objectives, effectiveness of Quality Management system & benefits of improvement. Awareness on Implications of not conforming
to the Quality management system shall also be provided. Documented information related to awareness shall be maintained.

7.4 Communication
EEC Executive Management ensures continual communication between all levels and functions including any external communication to ensure intent within the organization regarding the processes of the Quality Management System and related policies and their effectiveness is communicated, understood and reviewed. This may include, but not limited to, information from internal quality audits, management reviews, customer feedback, etc. In general, the Quality Management System shall serve as the key medium for conveying internal communication within the organization. The Quality Policy and Objectives, documented procedures, process instructions, work instructions and records are also used to communicate organizational intent.

External communications related customers, interested parties shall be through relevant Functions like Sales, Purchase or Quality control/Assurance.

7.5 Documented Information
7.5.1 General
EEC Quality Management System has documented procedures as required by ISO 9001:2015 and as determined by EEC to ensure effective planning, consistent operation and control of the Quality Management System, production/service conformity, resources needed, control on outsourced processes and customer related processes and to meet the stated requirements of EEC quality policy and objectives.

1. The EEC Quality Manual forms the basis of the EEC Quality Management System and also describes exclusions and reference to associated procedures. This document also offers a description of ISO 9001:2015 specified requirements, their perspective elements, and their interaction with EEC planned processes.

2. Creating and Updating
When creating an updating documented information, Environmental Equipment Co. (EEC) ensures appropriate:

a) Identification and description (e.g. title, date, author, or reference number);
b) Format (e.g. language, software version, graphics) and media (e.g. paper, electronic); and
c) Review and approval for suitability and adequacy.

7.5.3 Control of Documented Information
7.5.3.1 Documented information required by the quality management system and by ISO 9001:2015 are controlled to ensure: Availability and suitable for use, where and when it is needed; and it is adequately protected (e.g. from loss of confidentiality, improper use, or loss of integrity).

7.5.3.2 For the control of documented information, Environmental Equipment Co. (EEC) has addressed the following activities, as applicable.

a) Distribution, access, retrieval and use;
b) Storage and preservation, including preservation of legibility;
c) Control of changes (e.g. version control); and
d) Retention and disposition.
Documented information of external origin determined by Environmental Equipment Co. (EEC) to be necessary for the planning and operation of the quality management system is identified as appropriate and controlled. Documented information retained as evidence of conformity are protected from unintended alterations.

8. Operation
8.1 Operational Planning and Control
Environmental Equipment Co. (EEC) planned, implemented and controls the processes (see 4.4) needed to meet the requirements for the provision of production and services, and implemented the actions determined in Clause 6, by:
a) Determining the requirements for the production and services;
b) Establishing criteria for:
   1. The processes;
   2. The acceptance of production and services;
c) Determining the resources needed to achieve conformity to the production and service requirements;
d) Implementing control of the processes in accordance with the criteria; and
e) Determining and keeping documented information to the extent necessary:
   1. To have confidence that the processes have been carried out as planned;
   2. To demonstrate the conformity of production and services to their requirements.
The output of this planning is in a form suitable to Environmental Equipment Co. (EEC) method of operations. Environmental Equipment Co. (EEC) ensures that outsourced processes are controlled (See 8.4).

8.2 Requirements for Production and Services
8.2.1 Customer Communication
EEC shall maintain customer communication as per the documented procedure for; Communication with Customers includes:
a) Providing information relating to products and services;
b) Handling inquiries, contracts or orders, including changes;
c) Obtaining customer feedback relating to products and services, including customer complaints;
d) Handling or controlling customer property; and
e) Establishing specific requirements for contingency actions, when relevant.
Determining the Requirements Related to Production and Service
The Sales Manager shall review & understand the special production requirements specified by the customer. All customer enquiries shall be clearly understood, reviewed and documented with signature. Queries, if any shall be clarified with the customer or internal staff, prior to cost estimation and preparation of the quotation.
Necessary liaison work shall be carried out with the customer to realize a quotation into an actual Purchase Order.
The received Purchase Order shall be reviewed by the Sales Manager to ensure that the order requirements shall be in compliance with the original quotation proposal and any other mutually agreed modifications. A Job order is prepared detailing all the products requirements required by the customer and is forwarded to the Production Manager for initiating the production activities.
8.2.3 Review of Requirements Related to Products and Services
8.2.3.1 Environmental Equipment Co. (EEC) ensures that it has the ability to meet the requirements for production and services offered to customers. Environmental Equipment Co. (EEC) conducts a review before committing to supply production and services to a customer, to include:
Requirements specified by customer, including the requirements for delivery and post-delivery activities;
Requirements not stated by the customer, but necessary for the specified intended use, when known;
Requirements specified by Environmental Equipment Co. (EEC), Statutory and regulatory requirements
applicable to the products and services; and Contract or order requirements differing from those previously
expressed. Environmental Equipment Co. (EEC) ensures that the contract or order requirements differing
from those previously defined are resolved. The customer’s requirements are confirmed by Environmental
Equipment Co. (EEC) before acceptance, when the customer does not provide a documented statement of
their requirements.

8.2.3.2 Environmental Equipment Co. (EEC) retains documented information, as applicable:
a) On the results of the review; and
b) On any new requirements for the products and services;

8.2.4 Changes to Requirements for Products and Services
Environmental Equipment Co. (EEC) ensures that relevant documented information is amended, and that
relevant persons are made aware of the changed requirements, when the requirements for products and
services are changed.

8.3 Design and Development of Products and Services
EEC production as per customer design and development criteria.
Hence design and development is not in the scope of EEC QMS Refer Para 1.1 of
this manual for exclusions.

8.4 Control of Externally Provided Processes, Products, and Services

8.4.1 General
Environmental Equipment Co. (EEC) ensures that externally provided processes, production and services
conform to requirements.
Environmental Equipment Co. (EEC) determines the control applied to externally provided processes,
production, and services when:
a) Production and services from external providers are intended for incorporation into Environmental
Equipment Co. (EEC) own production and services;
b) Production and services are provided directly to the customer(s) by external providers on behalf of
Environmental Equipment Co. (EEC) and
c) A process, or part of a process, is provided by an external provider as a result of a decision by
Environmental Equipment Co. (EEC).
Environmental Equipment Co. (EEC) determines and applies criteria for the evaluation, selection, monitoring
of performance, and re-evaluation of external providers, based on their ability to provide processes or
production and services in accordance with requirements. Environmental Equipment Co. (EEC) retains
documented information of these activities and any necessary actions arising from the evaluations.
8.4.2 Type of Extent Control
Environmental Equipment Co. (EEC) ensures that externally provided processes, production and services do not adversely affect Environmental Equipment Co. (EEC) ability to consistently deliver conforming products and services to its customers. Environmental Equipment Co. (EEC)

a) Ensures that externally provided processes remain within the control of its quality management system;
b) Defines both the controls that it intends to apply to an external provider and those it intends to apply to the resulting output;
c) Takes into consideration:
   1. The potential impact of the externally provided processes, production and services on Environmental Equipment Co. (EEC) ability to consistently meet customer and applicable statutory and regulatory requirements;
   2. The effectiveness of the controls applied by the external provider;
d) Determines the verification, or other activities, necessary to ensure that the externally provided processes, production and services meet requirements.

8.4.3 Information for External Providers
Environmental Equipment Co. (EEC) ensures the adequacy of requirements prior to their communication to the external provider. Environmental Equipment Co. (EEC) communicates to external providers its requirements for:
a) The processes, products and services to be provided;
b) The approval of: Production and services, Methods, processes and equipment; The release of production and services; Competence, including any required qualification of persons; The external providers’ interactions with Environmental Equipment Co. (EEC) Control and monitoring of the external providers’ performance to be applied by Environmental Equipment Co. (EEC) and Verification or validation activities that Environmental Equipment Co. (EEC)or its customer, intends to perform at the external providers’ premises.

8.5 Production and Service Provision

8.5.1 Control of Production and Service Provision
Environmental Equipment Co. (EEC) implements production and service provision under controlled conditions. Controlled conditions include, as applicable:The availability of documented information that defines:
1. The characteristics of the products to be produced, the services to be provided, or the activities to be performed; The results to be achieved, The availability and use of suitable monitoring and measuring resources; The implementation of monitoring and measurement activities at appropriate stages to verify that criteria for control of processes or outputs, and acceptance criteria for production and services have been met; The use of suitable infrastructure and environment for the operation of processes; The appointment of competent persons, including any required qualification; The validation and periodic revalidation, of the ability to achieve planned results of the processes for production and service provision, where the resulting output cannot be verified by subsequent monitoring or measurement; The implementation of actions to prevent human error; and The implementation of release, delivery and post-delivery activities.

8.5.2 Identification and Traceability
The system is followed for indicating identification, traceability and inspection status of a production at all stages which are of receiving, storage, production and delivery. After performing the receiving inspection of the materials and components, the accepted materials shall be forwarded for storage or issued for production. Materials stored shall be identified with proper location numbers.
Finished products shall be identified properly with an Identification Tags, Customer Identification and Item Number etc.

Non-conforming products at any in-process stage shall be suitably identified with a Hold Tag and reported for initiating corrective action.

All the records related to a particular production order shall be referenced with the production date ensuring complete traceability of products from receipt of raw materials to delivery of the production to a customer.

8.5.3 Property Belonging to Customers or External Providers

The company shall maintain separate inventory and protection of the raw/semi-finished products received for further processing, if contracted.

The company shall utilize the said material only as per instructions received from the client directly and dispose-off the extra/unused material as per client's instructions.

The company shall prepare any NCR on the material and dispose it off as per client's instructions.

8.5.4 Preservation

Environmental Equipment Co. (EEC) preserves the outputs during production and service provision, to the extent necessary to ensure conformity to requirements.

8.5.5 Post-delivery Activities

Environmental Equipment Co. (EEC) meets requirements for post-delivery activities associated with the products and services.

In determining the extent of post-delivery activities that are required, Environmental Equipment Co. (EEC) considers:

a) Statutory and regulatory requirements;

b) The potential undesired consequences associated with its products and services;

c) The nature, use and intended lifetime of its products and services;

d) Customer requirements; and

e) Customer Feedback.

8.5.6 Control of Changes

Environmental Equipment Co. (EEC) reviews and controls changes for production or service provision, to the extent necessary to ensure continuing conformity with requirements. Environmental Equipment Co. (EEC) retains documented information describing the results of the review of changes, the person(s) authorizing the change, and any necessary actions arising from the review.

8.6 Release of Production and Service

Environmental Equipment Co. (EEC) has implemented planned arrangements, at appropriate stages, to verify that the production and service requirements have been met. The release of products and services to the customer, do not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, as applicable, by the customer. Environmental Equipment Co. (EEC) retains documented information on the release of products and services. The documented information includes:

a) Evidence of conformity with the acceptance criteria;

b) Traceability to the person(s) authorizing the release.
8.7 Control of Non-conforming Outputs

8.7.1 Environmental Equipment Co. (EEC) ensures that outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery. Environmental Equipment Co. (EEC) takes appropriate action based on the nature of the nonconformity and its effect on the conformity of products and services. This also applies to nonconforming products and services detected after delivery of products, during or after the provision of services. Environmental Equipment Co. (EEC) deals with nonconforming outputs in one or more of the following ways:

a) Correction;
b) Segregation, containment, return or suspension of provision of products and services;
c) Informing the customer; and
d) Obtaining authorization for acceptance under concession.

Conformity to the requirements are verified when nonconforming outputs are corrected.

8.7.2 Environmental Equipment Co. (EEC) retains documented information that:

a) Describes the nonconformity;
b) Describes the actions taken;
c) Describes any concessions obtained; and
d) Identifies the authority deciding the action in respect of the nonconformity.
9. Performance Evaluation

9.1 Monitoring, Measurement, Analysis and Evaluation

9.1.1 General

Environmental Equipment Co. (EEC) determines shall establish a documented procedure to plan and implement the monitoring, measurement, analysis and evaluate processes needed to demonstrate conformity to product requirements, ensure conformity of the Quality Management System, and continually evaluate the effectiveness of the Quality Management System. This shall include determination of applicable methods & when the monitoring and measurement shall be performed & when it shall be analyzed and evaluated. Documented information shall be retained. Environmental Equipment Co. (EEC) evaluates the performance and the effectiveness of the quality management system. Environmental Equipment Co. (EEC) retains appropriate documented information as evidence of the results.

9.1.2 Customer Satisfaction

In measuring the performance of the Quality Management System, EEC shall establish planned arrangements, as applicable, for monitoring information relating to customer satisfaction and perception to assess whether or not the organization has met customer requirements. Suitable methods as below shall be established for obtaining the information on customer perception.

- Customer satisfaction survey
- Customer feedback on delivered product/service quality
- Lost business/market share analysis
- Customer compliments and complaints.

9.1.3 Analysis and Evaluation

Environmental Equipment Co. (EEC) analyzes and evaluates appropriate data and information arising from monitoring and measurement. The results of analysis are used to evaluate:

a) Conformity of products and services;
b) The degree of customer satisfaction;
c) The performance and effectiveness of the quality management system;
d) If planning has been implemented effectively;
e) The effectiveness of actions taken to address risks and opportunities;
f) The performance of external providers; and
g) The need for improvements to the quality management system.

9.2 Internal Audit

Environmental Equipment Co. (EEC) shall conduct internal quality audits at a minimum, annually, to determine whether the Quality Management System is effectively implemented and maintained and to ensure that it conforms to the planned arrangements as required by the Quality Management System and ISO 9001:2015.

2. An audit program shall be planned and taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits.
3. The audit criteria, scope, frequency and methods shall be defined.
4. Selection of auditors and the conduct of audits shall ensure objectivity and impartiality of the audit process. Auditors shall be independent of the area audited and shall not audit their own work.
5. EEC shall establish a documented procedure to ensure that;
Internal audits are planned and conducted.
Responsibilities for planning and conducting audits are defined.
Results are recorded and records maintained
Results of audits are brought to the attention of personnel responsible for the audited area.
The management responsible for the area being audited shall take necessary corrections and corrective actions in a timely manner to eliminate detected nonconformities and their causes.
Follow-up actions are conducted to include verification of corrective/preventive action on nonconformities, including documented evidence of verification.

9.3 Management Review

9.3.1 General
Top management reviews Environmental Equipment Co. (EEC) quality management system, at planned intervals, to ensure its continuing suitability, adequacy, effectiveness and alignment with the strategic direction of Environmental Equipment Co. (EEC)

9.3.2 Management Review Inputs
The management review input requirements includes, at a minimum, information on the following:
- Follow-up actions from previous management reviews,
- Changes in external & internal issues that are relevant to the quality management system,
- Information on the performance and effectiveness of the quality management system, including trends in;
  a. results of audits,
  b. customer satisfaction & feedback from the relevant interested parties,
  c. process performance and product/service conformity,
  d. nonconformities and corrective actions
  e. monitoring and measurement results
  f. performance of external providers
- Adequacy of the resources
- Opportunities for improvement.
- The effectiveness of actions taken to address risks and opportunities.

9.3.3 Management Review Outputs
The outputs of the management review include decisions and actions related to:
  a) Opportunities for improvement;
  b) Any need for changes to the quality management system; and
  c) Resource needs.
Environmental Equipment Co. (EEC) retains documented information as evidence of the results of management reviews.
10. Improvement

10.1 General
Environmental Equipment Co. (EEC) determines and selects opportunities for improvement and implements any necessary actions to meet customer requirements and enhance customer satisfaction.
These include:
- a) Improving products and services to meet requirements as well as to address future needs and expectations;
- b) Correcting, preventing or reducing undesired effects; and
- c) Improving the performance and effectiveness of the quality management system.

10.2 Nonconformity and Corrective Action

10.2.1 When a nonconformity occurs, including any arising from complaints, Environmental Equipment Co. (EEC)
a) Reacts to the nonconformity and, as applicable:
   1. Takes action to control and correct it;
   2. Deals with the consequences;
- b) Evaluates the need for action to eliminate the cause(s) of the nonconformity, in order that it does not occur or occur elsewhere, by:
   1. Reviewing and analyzing the nonconformity;
   2. Determining the causes of the nonconformity;
   3. Determining if similar nonconformities exist, or could potentially occur;
- c) Implements any action needed;
- d) Reviews the effectiveness of any corrective action taken;
e) Updates risks and opportunities determined during planning, if necessary; and Appropriate to the effects of the nonconformities encountered.

10.2.2 Environmental Equipment Co. (EEC) retains documented information as evidence of:
- a) The nature of the nonconformities and any subsequent actions taken; and
- b) The results of any corrective action.

10.3 Continual Improvement
Environmental Equipment Co. (EEC) continually improves the suitability, adequacy and effectiveness of the quality management system.
Environmental Equipment Co. (EEC) considers the results of analysis and evaluations, and the outputs from the management review, to determine if there are needs or opportunities that are addressed as part of the continual improvement.
ANNEXURE A

ORGANIZATIONAL CHART
ANNEXURE B

QUALITY POLICY

Bismillah al-Rahman al-Rahim

QUALITY POLICY

ACHIEVING CUSTOMERS’ SATISFACTION DURING TO DO SEISMIC SURVEY AND DRILLING OF OIL WELLS AND GAS SUPPORT SERVICES.

- CIVIL, ELECTRICAL, MECHANICAL
  CONTRACTING AND TRADING.

CONTINUAL IMPROVE THE WHOLE SYSTEM TO EXCEED CUSTOMERS EXPECTATIONS THROUGH MEASUREMENT/ COMPARISON AND TAKING NECESSARY CORRECTIVE ACTIVITIES ACCORDINGLY.

PRECISE IMPLEMENTATION OF THE ISO 9001: 2015 QUALITY MANAGEMENT SYSTEM.

ENCOURAGING TRAINING AND LEARNING CULTURE THROUGHOUT THE COMPANY.

IMPROVING WELFARE & SAFETY OF THE EMPLOYEES.

GENERAL MANAGER

Date:

المدير العام

التاريخ:
ANNEXURE C

QUALITY OBJECTIVE

QUALITY OBJECTIVE

IMPROVING THE LEVEL OF AGREED SERVICES PRODUCTS.

IMPROVING THE VARIETY OF SERVICES/PRODUCTS.

CONTINUALLY IMPROVE CUSTOMER SATISFACTION INDEX.

CONTINUALLY IMPROVE STAFF SKILLS AND SATISFACTION.

CONTINUALLY REDUCE THE WASTAGE LEVEL.

ALL STAFF SHALL CONTRIBUTE TOWARDS ACHIEVING THESE OBJECTIVES BY SYSTEMATIC DATA COLLECTION, TIMELY DECISIONS AND FINALLY ENFORCING AGREED CORRECTIVE/PREVENTIVE ACTIONS TRULY AND TIMELY.

GENERAL MANAGER

DATE:

The general manager has contributed towards achieving the quality objectives by systematically collecting data, making timely decisions, and finally enforcing agreed corrective/preventive actions truly and timely. All staff shall contribute towards achieving these objectives by systematic data collection, timely decisions and finally enforcing agreed corrective/preventive actions truly and timely.

المدير العام

التاريخ:
ANNEXURE D

WORK FLOW CHART

New Inquiry

Decline

Yes

Quote

No

Technical & Commercial Submittal

Proposal Department
- Planners
- Design Engineer
- Costing & Estimation Engineer
- Civil Draughtsman
- MEP Draughtsman

Client Approval

Not Approved

Approved

Purchase Order

Revenue

Yes

No

Invoices

Finance & Accounting Department
- Finance Manager
- Accountants

Project Manager
- PMT & Client Communication
- Sub-contractors Management
- QA/QC Management
- Safety Management
- Site Management
- Project Management & Control

Client Approval

New Inquiry

Decline

Quote

Yes

Invoices

Finance & Accounting Department
- Finance Manager
- Accountants

Project Manager
- PMT & Client Communication
- Sub-contractors Management
- QA/QC Management
- Safety Management
- Site Management
- Project Management & Control

Client Approval

New Inquiry

Decline

Quote

Yes

Invoices

Finance & Accounting Department
- Finance Manager
- Accountants

Project Manager
- PMT & Client Communication
- Sub-contractors Management
- QA/QC Management
- Safety Management
- Site Management
- Project Management & Control
**ANNEXURE E**

**PROCESS MAP**

<table>
<thead>
<tr>
<th>ITC SAF Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PreSales</strong></td>
</tr>
<tr>
<td>Receipt of enquiry → Updating of enquiry register → Follow up of enquiry → Conversion to opportunity → Preliminary Design → Estimation Phase → Creation of quote for approval → Conversion of quote to sales order</td>
</tr>
<tr>
<td><strong>Estimation phase</strong></td>
</tr>
<tr>
<td>Creation of item under R&amp;D → Creation of BOM → Creation of costing components → Estimation of product cost structure</td>
</tr>
<tr>
<td><strong>Sales</strong></td>
</tr>
<tr>
<td>Receipt of sales order → Raise advance invoice → Invoice against order → AR Follow-up</td>
</tr>
<tr>
<td><strong>Project</strong></td>
</tr>
<tr>
<td>Creation of project initiation form → Assign project number → Break down project into tasks → Assign timeline → Task Execution → Review → Task closer → Project closer</td>
</tr>
</tbody>
</table>

Yes/No decisions and customer feedback points are indicated at various stages of the process map.
ITC SAF Group

Planning

A

Receipt of request
Fabrication required

No/Buy

C

Generate & release PO

Generate & Release JO

Yes/Make

Purchase

C

Receipt of request
Quote for item

Approval

Conversion to PO

PO Approval

Release & Follow-up PO

Stores & Quality

Receipt entry for incoming

QA

Yes

Material for stock transfer

Return to vendor

Raise debit note

AP Accounting

Job Work

D

Receipt of JO

Stock move from WH to Job location

Production

QA

Yes

Move to project site

AP accounting

Return to vendor

No
Environmental Equipment Company (ETCH2O) health and safety policy is presented to give a detailed view of company's strategy to identify hazards, measure and prioritize risks, and implement appropriate protective and preventive control procedures to reduce the potential for occupational injuries, illnesses and fatalities. The document presents gradual implementation of health regulations in construction works. General outlines are;

**Objectives:**

- Improvement and avoidance of pollution continuously.
- Acquiescence to all appropriate and existing environmental regulation and guideline, and any other requirements to which ETCH2O may contribute to or have control over.
- Detailing, applying and retaining the policy and educating it to all workers, and other workforces working in behalf of ETCH2O.
- Developing an environmentally friendly program that sets and analyses the environmental objectives and goals.
- For the protection of the Environment, development of awareness among Employees and the Community is most important factor.
- The message to the community is very clear about any environmental aspect associated to ETCH2O which involves Activities, Duties, Products and Services.
- One of the major concerns is protecting the Employees’ health and ensuring their safety at workplace.
- Sets up techniques, tools and processes that assure constant development in environmental performance and prevention of pollution. Endless progress is a part of our business strategy, by using means that ensure its implementation such as but not limited to:
  - Training employees for health and safety procedures.
  - Consuming recycled material where appropriate.
  - Using raw material which is less hazardous to environment.

**Commitment and Responsibility :**

ETCH2O, is committed and responsible to fulfill with all local and or/ international ecofriendly guidelines and make every effort to attain high criterions in the implementations of this policy.

For ETCH2O

General Manager
Purpose
As part of its goal to provide a safe and healthful workplace, ETCH2O is promulgating this procedure related to ETCH2O operations.

Scope:
This procedure applies to all ETCH2O facilities, work locations, and employees.

Responsibilities
The following personnel have responsibilities defined in this procedure:
- Managers
- Supervisors
- Employees
- Contractors
- Subcontractors
- Visitors

Procedure
Definitions
- **Exposure Assessment** - The qualitative and/or quantitative evaluation of the likely intake of biological, chemical, and physical agents via food as well as exposures from other sources if relevant.

- **Hazard** - A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.

- **Hazard Characterization** - Qualitative and/or quantitative evaluation of nature of adverse health effects associated with the hazard. For the purpose of microbiological risk assessment the concerns relate to microorganisms and/or their toxins.

- **Hazard Identification** - The identification of biological, chemical, and physical agents capable of causing adverse health effects and which may be present in a particular food or group of foods.

- **Quantitative Risk Assessment** - A risk assessment that provides numerical expressions of risk and indication of the attendant uncertainties (stated in the 1995 Expert Consultation definition on Risk Analysis).

- **Qualitative Risk Assessment** - A risk assessment based on data which, while forming an inadequate basis for numerical risk estimations, nonetheless, when conditioned by prior expert knowledge and identification of attendant uncertainties permits risk ranking or separation into descriptive categories of risk.
**Risk** - A function of the probability of an adverse health effect and the severity of that effect, consequential to a hazard(s) in food.

**Risk Analysis** - A process consisting of three components: Risk assessment, risk management and risk communication.

**Risk Assessment** - A scientifically based process consisting of the following steps: (i) hazard identification, (ii) hazard characterization, (iii) exposure assessment, and (iv) risk characterization.

**Risk Characterization** - The process of determining the qualitative and/or quantitative estimation, including attendant uncertainties, of the probability of occurrence and severity of known or potential adverse health effects in a given population based on hazard identification, hazard characterization and exposure assessment.

**Risk Communication** - The interactive exchange of information and opinions concerning risk and risk management among risk assessors, risk managers, consumers and other interested parties.

**Risk Estimate** - Output of risk characterization.

**Risk Management** - The process of weighing policy alternatives in the light of the results of risk assessment and, if required, selecting and implementing appropriate control options, including regulatory measures.

**Sensitivity analysis** - A method used to examine the behavior of a model by measuring the variation in its outputs resulting from changes to its inputs.

**Transparent** - Characteristics of a process where the rationale, the logic of development, constraints, assumptions, value judgments, decisions, limitations and uncertainties of the expressed determination are fully and systematically stated, documented, and accessible for review.

**Uncertainty analysis** - A method used to estimate the uncertainty associated with model inputs, assumptions and structure/form.

**Procedure:**

**Implementation**

**Work Environment Monitoring**

**Definition:** Work Environment monitoring in the context of ETCH2O's occupational health and management system refers to "those activities involving observation, testing and monitoring of the work environment in order to detect and assess if there are hazards present, to which employees and others may be exposed which have a
potential to cause occupational health problems to those present in the workplace."

Work environment monitoring could include, but is not limited to, activities for monitoring for the presence of:

- Hazardous Substances
- Noise
- Fumes or Vapors
- Radiation
- Ergonomic Hazards
- Fall Hazards

Air monitoring may be required as part of the risk assessment (where it is necessary to obtain a quantitative estimate of exposure), or to determine the effectiveness of engineering controls.

**How to Conduct a Job Hazard Analysis at ETCH2O**

**Job Hazard Analysis**

Job Hazard Analysis is a procedure used to review work methods and uncover hazards that may result in accidents. It is one of the first steps in hazard prevention and safety training because a hazard must be recognized before it can be eliminated. Performance of a Job Hazard Analysis also assists in the determination of the cause(s) of an accident. The Job Hazard Analysis must be performed:

- On all accidents causing death or major injuries
- On tasks or procedures which field management or the ETCH2OSafety Manager believe may pose uncontrolled hazards
- On tasks or procedures that have a history of resulting in personal injury or property damage and
- When new machines and potentially hazardous materials which can cause injury are introduced.

**Uses of the Job Hazard Analysis**

The Job Hazard Analysis provides a learning opportunity for the supervisor/manager and employee. Copies of the Job Hazard Analysis should be made available to all employees who perform that job. The supervisor should explain the analysis to the employees and if necessary, provide additional training.
New employees or employees asked to perform new tasks must be trained to use the safe and efficient procedures developed in the Job Hazard Analysis. The new employee should be taught the correct method to perform a task before dangerous habits develop. The employee should also be instructed on how to recognize the hazards associated with each job step and to use the necessary precautions to avoid injury or accidents.

Jobs that are performed infrequently require additional effort to minimize accident potential. Pre-job instruction addressing the points listed on the Job Hazard Analysis will serve as a refresher to employees who may have forgotten some of the hazards in performing the task and the proper procedure to be used to avoid these hazards.

Finally, the Job Hazard Analysis is an accident investigation tool. When accidents occur involving a job for which a Job Hazard Analysis has been performed, the analysis should be reviewed to determine if proper procedures were followed or if the procedures should be revised.

Additional Information or Process Details/Steps

Job Hazard Analysis Procedure

Supervisors are expected to perform Job Hazard Analysis to evaluate jobs and work methods and to eliminate hazards. Before conducting a Job Hazard Analysis.

Step 1: Select the Job

In selecting jobs to be analyzed and in establishing the order of analysis, the following factors should be considered. They are listed in order of importance.

1. **Production of Injuries.** Every job that has produced a medical treatment or disabling injury during the past three years should be analyzed.

2. **Frequency of Accidents.** Jobs that repeatedly produce accidents are candidates for a Job Hazard Analysis. The greater number of accidents associated with the job, the greater its priority for a Job Hazard Analysis. Subsequent injuries indicate that preventive action taken prior to their occurrence was not successful.

3. **Potential Severity.** Some jobs may not have a history of accidents but may have the potential for severe injury or property damage. The greater the potential severity, the greater its priority for a Job Hazard Analysis.

4. **New Jobs.** New operations created by changes in equipment, potentially hazardous materials or processes obviously have no history of accidents, but their accident potential should be fully appreciated. A Job Hazard Analysis
should be made on every new job created. Analysis should not be delayed until an accident or "near miss" occurs.

**Step 2: Perform the Analysis**

The supervisor responsible for the task should perform the JHA using the Job Hazard Analysis Work Sheet. This worksheet should be used as a reference as the notes taken on it can be used when determining hazards and recommendations. A reliable list will be developed through observation and discussion. The supervisor should conduct the JHA with the assistance of employees who regularly perform the task.

The job being analyzed should be broken down into a sequence of steps that describes the process in detail. Avoid two common errors: 1) making the breakdown too detailed so that an unnecessarily large number of steps results or 2) making the job breakdown too general so that the basic steps are not distinguishable. As a rule, the Job Hazard Analysis should contain less than 12 steps. If more steps are needed, the job should be broken into separate tasks.

Job Hazard Analysis involves the following:

1. Selecting a qualified person to perform the task.
2. Briefing the employee demonstrating the task on the purpose of the analysis.
3. Observing the performance of the job and breaking it into basic steps.
4. Recording and describing each step in the breakdown.
5. Reviewing the breakdown and description with the person who performed the task.

Select an experienced, capable and cooperative person who is willing to share ideas. He/She should be familiar with the purpose and method of a Job Hazard Analysis. Sometimes it is difficult for someone who is intimately familiar with a job to describe it in detail, therefore, reviewing a completed Job Hazard Analysis before conducting one will help illustrate the terminology and procedure to be followed.

Review the breakdown and analysis with the person who performed the job to ensure agreement of the sequence and description of the steps. Variations of routine procedures should be analyzed also.
The wording for each step should begin with an action word such as “remove,” “open, or” “lift”.

Step 3: Identify Hazards

Hazards associated with each step are identified. To ensure a thorough analysis, answer the following questions about each step of the operation:

1. Is there a danger of striking against, being struck by, or otherwise making injurious contact with an object?
2. Can the employee be caught in, by, or between the objects?
3. Is there a potential for a slip or trip? Can someone fall on the same level or to another?
4. Can an employee strain himself or herself by pulling, pushing, lifting, bending or twisting?
5. Is the environment hazardous to one’s health (toxic gas, vapor, mist, fumes, dust, heat, chemicals or radiation)?

Step 4: Develop Solutions

The final step in Job Hazard Analysis is to develop a safe, efficient job procedure to prevent accidents. The principal solutions for minimizing hazards that are identified in the analysis are as follows:

1. **Find a new way to do a job.** To find an entirely new way to perform a task, determine the goal of the operation and analyze the various ways of reaching this goal. Select the safest method. Consider work saving tools and equipment.

2. **Change the physical conditions that create the hazard.** If a new way to perform the job cannot be developed, change the physical condition (such as tools, materials, equipment, layout, location) to eliminate or control the hazard.

3. **Reduce the frequency of its performance.** Often a repair or service job has to be repeated frequently because of another condition that needs correction. This is particularly true in maintenance and material handling. To reduce the frequency of a repetitive job, eliminate the condition or practice that results in excessive repairs or service. If the condition cannot be eliminated, attempt to minimize the effect of the condition. Reducing the number of times a job is performed contributes to safer operations only because the frequency of exposure to the hazard is reduced. It is, of course, preferable to eliminate
hazards and prevent exposure by changing physical conditions or revising the job procedure or both.

**Step 5: Conduct a Follow-up Analysis**

No less than once per month, each supervisor should observe employees as they perform at least one job for which a Job Hazard Analysis has been developed. The purpose of these observations is to determine whether or not the employees are doing the jobs in accordance with the safety procedures developed. The supervisor should review the Job Hazard Analysis before doing the follow-up review to reinforce the proper procedures that are to be followed.

1. **Record Keeping**
   
   1.1. A directory of Job Hazard Analysis’s is maintained on the ETCH2O Web and is readily accessible to employees.

2. **Review and Evaluation**
   
   2.1. Follow-up analysis is conducted per Step 5 above.
   
   2.2. A Job Hazard Analysis should be reviewed annually and anytime there is a modification to the equipment or a change to a procedure.
Purpose:
ETFCH2O will establish plan for Emergencies faced in every project and facility based to control the effects of emergencies and to minimize the losses.

Scope:
This procedure applies to all ETCH20 employees, contractors, subcontractors and visitors associated with an ETCH20.

Responsibilities
The following personnel have responsibilities defined in this procedure:

- Managers
- Supervisors
- Employees
- Contractors
- Subcontractors
- Visitors

Procedure:

- If the customer location in which ETCH20 personnel are working has an active emergency action and/or evacuation plan, elements of the customer plan that affect ETCH20 personnel shall be reflected in the Project Emergency Preparedness Plan.
- The Emergency Preparedness and Contingency Plan shall be location specific, it shall be in writing, and it must be displayed for employee review at the location site.
- The elements of the emergency plan will cover:
  - Means of reporting fires and other emergencies
  - Evacuation procedures and emergency escape route assignments
  - Procedures to account for all employees after an emergency evacuation has been completed
  - Rescue and medical duties for those employees who are to perform them
  - Names or job titles of persons who can be contacted for further information or explanation of duties under the plan
Emergencies that will be addressed in Plan:

- Spills (Biological/Chemical/Radiological
- Fire
- Medical Emergencies
- Power Outage
- Water Outage
- Civil Disturbances

Emergency Response Team:

ETCH2O on all its project and facilities will develop emergency response team. This will include all tier of workforce to effectively handle the emergency to avoid losses.

Emergency response team will include;
- Project manager
- HSE representative
- Site supervisors

- Before implementing the Emergency Preparedness and Contingency Plan, the Location Manager shall designate and train a sufficient number of workers to assist in the safe and orderly emergency evacuation of all other employees. The Plan shall be reviewed with, signed, and dated by each employee at the following times:
  (a) When the Plan is initially developed;
  (b) Whenever responsibilities or designated actions under the Plan change; and
  (c) Whenever the Plan itself is changed.
Purpose
As part of its goal to provide a safe and healthful workplace, ETCH2O is promulgating this procedure related to fire hazards in the workplace.

Scope:
This procedure applies to all ETCH2O facilities, work locations, and employees.

Responsibilities
The following personnel have responsibilities defined in this procedure:
- Managers
- Supervisors
- Employees
- Contractors
- Subcontractors
- Visitors

Procedure
Fire Extinguishers:
- Fire extinguishers are provided at all ETCH2O associated sites. Primarily, these fire extinguishers are classified as ABC-type fire extinguishers, but some may only be classified for BC-type usage. The proper fire extinguisher should be selected, appropriate for the type of fire it is used to extinguish.
- Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.
  1. Class A fires involve materials such as wood, paper and cloth which produce glowing embers or char.
  2. Class B fires involve flammable gases, liquids and greases including gasoline and most hydrocarbon liquids which must be vaporized for combustion to occur.
  3. Class C fires involve fires in live electrical equipment or in materials near electrically powered equipment.
  4. Class D fires involve combustible metals such as magnesium, zirconium, potassium and sodium.
- Extinguishers shall be selected according to the potential fire hazard, the construction and occupancy of facilities, hazard to be dealt with and other factors pertinent to the situation.
Fire Prevention & Control

- Extinguishers shall be conspicuously located and readily accessible for immediate use in the event of fire. They shall be located along normal paths of travel and egress. Wall recesses and/or flush-mounted cabinets shall be used as extinguisher locations whenever possible.

- Extinguishers shall be clearly visible. In locations where visual obstruction cannot be completely avoided, directional arrows shall be provided to indicate the location of extinguishers, and the arrows shall be marked with the extinguisher classification.

- If extinguishers intended for different classes of fire are located together, they shall be conspicuously marked to ensure that the proper class extinguisher selection is made at the time of a fire. Extinguisher classification markings shall be located on the front of the shell above or below the extinguisher nameplate. Markings shall be of a size and form to be legible from a distance of three (3) feet.

- Portable extinguishers shall be maintained in a fully charged and operable condition. They shall be kept in their designated locations at all times when not being used. When extinguishers are removed for maintenance or testing, a comparable fully charged and operable replacement unit shall be provided. Extinguishers shall be installed on hangers, brackets, or in cabinets. Extinguishers having a gross weight exceeding 40 pounds shall be installed so that the top of the extinguisher is not more than 3½ feet above the floor. Extinguishers less than 40 pounds shall be installed so that the top of the extinguisher is not more than 5 feet above the floor.

- Extinguishers mounted in cabinets or wall recesses or set on shelves shall be placed so that the extinguisher operating instructions face outward. The location of such extinguishers shall be made conspicuous by marking the cabinet or wall recess in a contrasting color which shall distinguish it from the normal decor.

- Extinguishers shall be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. OSHA requires that the travel distance for Class A and Class D extinguishers not exceed 75 feet. The maximum travel distance for Class B extinguishers is 50 feet because flammable liquid fires can get out of control faster than Class A fires. There is no maximum travel distance specified for Class C extinguishers, but they shall be distributed on the basis of appropriate patterns for Class A and B hazards.

- Once an extinguisher is selected, purchased and installed, it is the responsibility of the Station Manager or his/her designee to oversee the inspection, maintenance and testing of fire extinguishers to ensure that they are in proper working condition and have not been tampered with or physically damaged.
• Portable fire extinguishers shall be visually inspected monthly and be documented using a tag. The monthly inspection shall include such items as:
  o Ensuring the pressure has not leaked from the extinguisher if a pressure gauge is present.
  o Inspecting the hose of the extinguisher to ensure it is not cracked, torn or dry rotted.
  o Ensuring the outlet nozzle is not blocked by a foreign object.
  o Ensuring that the extinguisher is not blocked.
  o Ensuring that the extinguisher is properly mounted.
• Vehicle-mounted extinguishers shall be turned upside down and shaken vigorously to help prevent the powder in the extinguisher from compacting and caking due to vibration from the vehicle.
• Ensuring that the shell of the extinguisher is not corroded or physically damaged. If applicable, ensuring that safety pull pins are in place
  o An annual maintenance check of fire extinguishers shall be performed. This check shall include the following:
    o The mechanical parts of the extinguisher.
    o The extinguishing agent used.
    o The means by which the agent is expelled.
• A written record of the annual maintenance check shall be maintained for one year. This is best accomplished with a tag placed upon the extinguisher by the service contractor performing the check.
• Fire extinguishers shall be hydrostatically tested at periodic intervals based upon the type of extinguisher. Attachment A provides the hydro-static test intervals for the various types of fire extinguishers.
• Where Occupant Emergency Plan calls for the employee’s use of fire extinguishers, an educational program shall be provided to familiarize all employees with the general principles of fire extinguisher use and the hazards involved with incipient-stage fire fighting. The education program (e.g., videotapes, Fire Department training, etc.) shall be provided upon initial employment and at least annually thereafter.
• Each facility shall develop and maintain a written Fire Prevention Plan (See Attachment C: Fire Prevention Plan Template) which, at a minimum, contains the following elements:
  • A list of the major workplace fire hazards and their proper handling and storage procedures.
  • Potential ignition sources (such as smoking, hot surfaces, welding and others) and their control procedures.
  • A list of the types of fire protection equipment or systems which can control fires involving the major workplace fire hazards.
  • Names or job titles of the individual(s) responsible for maintenance and inspection of fire protection/detection equipment or systems.
  • Names or job titles of the individual(s) responsible for controlling potential fuel sources that may create a fire hazard.
  • A list of flammable/combustible materials.
  • Procedures for handling, storage and disposal of flammable and combustible waste materials.
  • Employees shall be given awareness training to apprise them of the potential fire hazards associated with materials and processes which they are exposed to in their work area. This training shall be given upon initial assignment.

General Fire Prevention Guidelines

• The following guidelines shall be followed at all ETCH2O associated sites to help reduce the potential for fire at these locations:
  • Flammable material shall be stored and used in accordance following safe guidelines;
  • Materials such as oily rags shall be collected in fire-safe container and disposed of properly by a licensed contractor.
  • Electrical circuits shall not be loaded beyond their rated capacity.
  • Equipment with frayed or damaged electrical cords or plugs shall be removed from service.
  • Portable electric heating devices shall be in good physical condition and be UL listed. The manufacturer’s recommendations for clearances shall be followed when these devices are in use. Combustible materials shall not be stored under stairways or in exit ways.
  • Spills of combustible or flammable materials shall be cleaned up immediately.
Fire Prevention & Control

- Smoking is not permitted within 50 feet of flammable material storage areas.
- Fire hydrants, building fire department connections and other fire suppression related fixtures shall be kept clear of plants, materials and other items that may block their access.
- Monthly inspections shall be conducted for egress paths, combustible loadings, chemical storage and general facility conditions.
- Flammable/combustible materials brought to the facility by Contractors must be evaluated for fire potential and incompatibility with materials at the site.
- Any hot work that includes grinding with sparks; use of propane gas for heating of metal or thawing pipes, welding activities will have a permit approved by Safety or Environmental/Safety Focal Point. See procedure 28, Welding/Hot work for Hot Work Permit requirements.
Purpose:

ETCH2O will establish plan in every project and facility to implement the requirements of personal protective equipment procedure.

Scope:

This procedure applies to all ETCH2O employees, contractors, subcontractors and visitors associated with ETCH2O.

Responsibilities

The following personnel have responsibilities defined in this procedure:

- Managers
- Supervisors
- Employees
- Contractors
- Subcontractors
- Visitors

Procedure

- Every attempt shall be made to prevent the possibility of incidents and accidents to employees when performing work activities by providing them with the appropriate personal protective equipment, through compliance with safety regulations and training of employees to properly use, inspect and wear the required PPE and through employee involvement in safe work activities.

- The ETCH2O reserves the right to select and/or approve all Personal Protective Equipment to be issued and used by its employees, visitors, and/or subcontractors. Only such equipment issued or approved will be allowed on its jobsites. Failure to comply with this procedure will result in disciplinary action up to and including termination in accordance with

- If hazards are present, controls shall be implemented to eliminate or reduce the hazard. If controls are not available and/or the hazard is not eliminated, the requisite Personal Protective Equipment (PPE) shall be used. ETCH2O Management shall:
  - Select and have each affected employee use the types of PPE chosen.
  - Communicate appropriate selection of PPE to employees.
  - Ensure that employees have PPE that properly fits them.
  - Ensure that employees understand the proper usage of the required PPE.
Defective or damaged PPE shall be removed from service and shall not be reused.

ETCH2O shall ensure that each employee who is required to wear PPE is trained in the following:

- When PPE is necessary.
- What PPE is necessary.
- How to put on, take off, adjust, and wear the PPE.
- The limits of the PPE.
- The proper care, maintenance, useful life, inspection and disposal of the PPE.

The Project HSSE Manager along with Project Team will authorize the purchase of appropriate types and models of PPE.

The company will provide all PPE to the employee at no cost to the employee with exception of items deemed to be personal in nature to include, but not limited to:

- Prescription Safety Eyewear
- Thermal undergarments
- Safety Toed Protective Footwear
- Projects may, at their discretion, accept the cost of these personal in nature items as well.

The project shall document that each affected employee has been trained. The written documentation shall include the name of each employee trained, the dates of the training, and the subject of the training.

Employee-owned Equipment

- Each employee shall be issued a hard hat, protective eyewear, hearing protection, and/or respiratory protection and fall protection if required. An employee wishing to utilize their own PPE must be able to demonstrate it meets ETCH2O requirements
- Employees are responsible to provide their own work clothes and sturdy safety-toed work boots that meet ETCH2O’s PPE requirements. Should an employee report for work with unsatisfactory PPE, the employee will not be permitted to work until ETCH2O’s requirements are met.
PUPRPOSE
The purpose of this Procedure is to establish the minimum requirements for the use of First Aid and Medical Services on ETCH2O projects and locations.

Scope:
This procedure applies to all ETCH2O employees, contractors, subcontractors and visitors associated with ETCH2O.

Responsibilities
The following personnel have responsibilities defined in this procedure:
- Managers
- Supervisors
- Employees
- Contractors
- Subcontractors
- Visitors

Procedure:
- ETCH2O shall insure the availability of medical personnel for advice and consultation on matters of occupational health
- ETCH2O shall ensure availability of certified and qualified First Aiders and ETCH2O shall maintain the record of training for First aid and CPR.
- First-Aid supplies approved by a consulting physician shall be easily accessible when required.
- **Minor First Aid Treatment**
  First aid kits are stored in the office, job trailers, job sites and in each company vehicle. If an employee sustains an injury or are involved in an accident requiring minor first aid treatment, they shall:
  - Inform their supervisor.
  - Administer first aid treatment to the injury or wound.
  - If a first aid kit is used, indicate usage on the accident investigation report.
  - Access to a first aid kit is not intended to be a substitute for medical attention.
  - Provide details for the completion of the accident investigation report.
First Aid & Medical Services

- **Non-Emergency Medical Treatment**
  - For non-emergency work-related injuries requiring professional medical assistance, management must first authorize treatment. If an employee sustains an injury requiring treatment other than first aid, they shall:
    - Inform your supervisor.
    - Proceed to the posted medical facility. Your supervisor will assist with transportation, if necessary.
    - Provide details for the completion of the accident investigation report.

- **Portable eye wash stations** shall be used in the event an employee accidentally spills or splashes injurious chemicals or liquids on their clothing or body. Employees shall notify their supervisor if they use an eye wash station.

- **Emergency Medical Treatment**
  - If an employee sustains a severe injury requiring emergency treatment:
    - Call for help.
    - Use the emergency telephone numbers and instructions posted in your work area to request assistance and transportation to the local hospital emergency room.
    - Provide details for the completion of the accident investigation report.

- **First Aid Supplies and Equipment**
  - It is important that our first aid supplies and equipment meet the specific needs of each worksite.

ETCH2O shall ensure that adequate first aid supplies are readily available, including:

- Variety of bandages, compresses, and gauze pads
- Antiseptic swabs
- Burn treatments
- Adhesive tape
- Latex or similar gloves
- Eye dressing
- Eyewash solution
- Instant cold packs
First Aid & Medical Services

- Antibiotic cream
- Ammonia inhalants

- The contents of the first aid kit shall be placed in a weatherproof container with individual sealed packages for each type of item.

Monthly inspection of first aid supplies shall be conducted by person assigned by Project manager of ETCH2O.
Purpose

The purpose of this Procedure is to establish the minimum requirements for Incident Investigation and reporting on ETCH2O projects and locations.

Scope:

This procedure applies to all ETCH2O employees, contractors, subcontractors and visitors associated with ETCH2O.

Responsibilities

The following personnel have responsibilities defined in this procedure:

- Managers
- Supervisors
- Employees
- Contractors
- Subcontractors
- Visitors

Definitions

**Accident** is an event, or a series of events, at a work place causing injury to a person.

**First Aid Case (FAC)** means any one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters which do not ordinarily require medical care. Such treatment and observation are considered first aid even though provided by a physician or registered professional personnel.

**High Potential Incident** – at a coal mine is an event, or a series of events, that causes or has the potential to cause a significant adverse effect on the safety and health of a person.

**Incident** means any unplanned event that downgrades the business operation. The definition includes those incidents defined as near Mine Manager or delegates, high potential incidents, accidents and serious accidents.

**Lost Time Injury (LTI)** means an injured employee is absent from work for one complete day or shift following the day of the accident.

**Lost Time Injury Frequency (LTIF)** means the number of lost time injuries per million exposure hours worked during the period.

**Medical Treatment Case (MTC)** means any work injury that involves neither lost-time injury nor restricted work case but which requires treatment by, or under the specific order of a physician.
Total Recordable Cases (TRC) means the sum of fatalities, permanent total disabilities, lost time injuries, restricted work cases and medical treatment cases.

Recordable Work Injury means any work injury that results in:
- fatality
- lost time injuries
- restricted work case
- medical treatment case

Total Recordable Case Frequency Rate (TRCFR) means the number of total recordable cases per million exposure hours worked during the period.

Restricted Work Case (RWC) means any work injury that results in the requirement for the allocation of alternative work as the person can not perform their normal job. Alternative work can only be allocated by an accredited rehabilitation coordinator.

Serious accident at a workplace is an accident at a workplace that causes -
(a) the death of a person; or
(b) a person to be admitted to a hospital as an in-patient for treatment for the injury.

Procedure:
- Immediately following an occurrence, the following actions shall be taken by the Job Foreman/Superintendent, the Project Manager designee
- Investigations are conducted to determine the root cause(s) of an incident so that actions can be taken to prevent recurrence.

The incident investigation process entails:
- Collection of facts.
- Analysis of the facts to determine what happened and the contributing and root cause or why it happened.
- Development of corrective actions.
- Communication of lessons learned as appropriate.

If the incident is minor or major in nature, the incident investigation should have to be documented. If there are documents associated with the incident (medical evaluations, incident report, accident report, etc.), these are to be included in the incident file and are subject to retention.
Safety Representative/Project Managers are responsible to:

- Evaluate the severity of the incident and investigate to determine the root cause.
- Implement any corrective actions identified to prevent recurrence.
- Discuss lessons learned from the incident and corrective actions taken ETCH2O staff through an appropriate mechanism (staff meeting, memo, training session or verbal instruction).
- Respond to any requests from external agencies as necessary.
- Arrange for medical treatment of any employee at a designated occupational health facility as necessary.
- Review any work restrictions made known and assign work to comply with the restrictions imposed.

Records

- Project manager shall ensure the following incident data is collected and maintained:
  - First Aid Cases
  - Medical Treatment Cases
  - Lost Time Injuries
  - Restricted Work Cases
  - Total Recordable Cases

Training

- The Project Manager shall determine the number of personnel to be trained in Accident Investigation and reporting.

Attachments:

Incident Investigation Report:
PURPOSE
The purpose of this Procedure is to establish the minimum requirements for the Lifting equipment safely on ETCH2O projects and locations.

Scope:
This procedure applies to all ETCH2O employees, contractors, subcontractors and visitors associated with ETCH2O.

Responsibilities
The following personnel have responsibilities defined in this procedure:
- Managers
- Supervisors
- Employees
- Contractors
- Subcontractors
- Visitors

Procedure
- Responsibilities for the implementation of this procedure are assigned to ETCH2O Project and Facilities Management. Subcontractors are responsible for their own implementation of this procedure.
- A permanent inspection and proof-load test file for ETCH2O operated cranes and load lifting equipment will be maintained by Project and/or ETCH2O Facilities Management.
- Project/Facilities Management shall have ETCH2O cranes and load lifting equipment inspected at intervals required by state and federal regulations.
- Each user/operator shall visually inspect assigned piece of lifting or material handling equipment on a daily basis.
- Any questionable items shall be referred to project Management for resolution before use. The Daily inspection Records shall be used for documenting the daily inspection of cranes.

Inspection and Testing Schedule
General
- All ETCH2O operated cranes and hoists will not be put into service until an initial proof-test or manufacturer’s certification, which attests to governmental regulations or compliance, is received by project
management. These records shall be maintained with the crane's permanent file.

- Subcontractors shall provide the ETCH2O proof of certification prior to putting a crane, hoist or material-lifting device into service.
- Cranes and hoists will be reviewed by Project Management prior to being put into service.
- Certification indicating compliance with the governmental regulations or compliance must be maintained for each crane.
- All initial, periodic and daily inspections as well as testing and maintenance shall comply with the applicable governmental regulations or compliance, ANSI and manufacturer's requirements.

**Daily Inspections of Lifting Equipment**

The crane/hoist operator will perform a visual safety inspection of load lifting equipment to be used.

**OPERATORS – QUALIFICATIONS**

- Only employees authorized, trained, or known to be qualified in the safe operation of cranes or hoisting apparatus shall be permitted to operate such equipment.
- Trainees are not authorized to operate cranes or hoisting devices on ETCH2O projects.
- Authorized inspectors, maintenance, or test personnel may operate such equipment when it is necessary in the performance of their duties.
- Operators of cranes or derricks, which are operated from cab, cage, or remote operating station, shall furnish satisfactory evidence of qualifications and experience.
PART - F

OUR TEAM

OUR KEY STAFF
CONTACT DETAILS
# Our Key Staff

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
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<tbody>
<tr>
<td>General Manager</td>
<td>Rana Muhammad Zahid</td>
</tr>
<tr>
<td>Executive Manager</td>
<td>Amanullah Khan</td>
</tr>
<tr>
<td>Sales Co-ordinator</td>
<td>Abdullah Kitabullah</td>
</tr>
<tr>
<td>Sales Manager</td>
<td>Kamran Majeed</td>
</tr>
<tr>
<td>Marketing Manager</td>
<td>Shilendra</td>
</tr>
<tr>
<td>Administration</td>
<td>Naif Al Fahmi</td>
</tr>
<tr>
<td>Technical Sales Manager</td>
<td>Mourad, Mohamed</td>
</tr>
<tr>
<td>Project Manager</td>
<td>Farrukh Sadaqat</td>
</tr>
<tr>
<td>Finance Manager</td>
<td>Hasan Shahid</td>
</tr>
<tr>
<td>Accounts Manager</td>
<td>Amjad Dilawer Hussain</td>
</tr>
<tr>
<td>Workshop Manager</td>
<td>Orlyn October</td>
</tr>
<tr>
<td>Technical Manager</td>
<td>Manish Ambadas Sonawane</td>
</tr>
</tbody>
</table>
CONTACT DETAILS

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