باور كونتراكتينغ اند سيرفيسز
Power Contracting and Services

Together to get there…

PRE-QUALIFICATION DOCUMENT

2024

باور كونتراكتينغ اند سيرفيسز
Power Contracting and Services

Index

01

INTRODUCTION

باور كونتراكتينغ اند سيرفيسز
Power Contracting and Services

About Us

Power Contracting and Services (PCS) is a privately owned multi-faced group of companies. Since its inception in 2017, within a very short period of time, it has developed into construction, trading, and support services companies in Qatar and provides comprehensive services to various domains.

PCS is well established in the business world and strives to achieve further success through the different activities of its group of companies. The Group provides a wide range of products and services to its Clients and aims to provide a large number of high-quality services under one roof. Currently, the following companies are operating independently under the umbrella of PCS in addition to its own involvement in Construction, Facilities Management, Maintenance and other project support services

AWILE AL-JAZEERAH
FOR HOSPITALITY CLEANING AND BUILDING MAINTENANCE

COMFORTABLE LIMOUSINE

- Complete building solutions right from construction, project management, interior décor and fit-out works.
- Construction of all types of buildings including RCC, Pre-fabricated building, Pre-engineered steel structured buildings.
- Trading of specialized building materials, provision of hospitality, cleaning and building maintenance services.
- Complete facilities management and properties management services for high-rise towers, residential buildings, private villas, etc.
- Provision of Vehicle Rental and Limousine services.

Since the PCS came into existence, its client list has been multiplied and STILL continuous, this success only came up to this mark due to PCS's firm commitment and dedication.

All the divisions and group companies are operating under strict management to provide best of PCS. Today PCS is glad to be a part of many successful projects and business ventures, which reflect Qatar as the future of Business Centre in all fields.

About Us

The philosophy of PCS to fulfil its vision and mission is guided by the following core values:

- Expertise
- Integrity
- Reliability
- Quality
- Teamwork
- Commitment

02

COMPANY INFORMATION

باور كونتراكتينغ اند سيرفيسز
Power Contracting and Services

Company Information

Company Name	Power Contracting & Services
Commercial Registration No.	106921
Commercial License No.	161551
Date of Registration	21/11/2017
Establishment ID No.	17-1576-81
Type of Organization	Limited Liability Company
Management Representatives	Mr. Abdul Salam General Manager
Banks	Qatar International Islamic Bank
Physical Address	Office No. 1, Building No. 44 Street No. 795, Zone No. 53 Doha, State of Qatar.
Postal Address	P.O. Box 92801 Doha, State of Qatar.
Contact Details	Tel. +974 4140 3331 Mob. +974 7748 4844 E-Mail: info@pcs-qatar.com Web. www.pcs-qatar.com

03

LEGAL DOCUMENTS

Legal Documents

Commercial Registration (Page 1 of 2)

وزارة التجـــــــارة والصناعـــــــة
Ministry of Commerce and Industry
State of Qatar • دولـــة قطـــر

Registration and Commercial Licenses Department

إدارة التسجيل والتراخيص التجارية

مستخرج ببعض بيانات السجل التجارى

تاريخ الطباعة: 2024/08/12

رقم السجل التجارى:	106921	رقم التسجيل الضريبي:	5000459115
الأسم التجارى:	باور كونتراكتينغ اند سيرفيسز	السمة التجارية:	باور كونتراكتينغ اند سيرفيسز
تاريخ انشاء السجل:	21/11/2017	تاريخ انتهاء السجل:	19/11/2026
الشكل القانونى:	شركة ذات مسئولية محدودة	راس المال:	10000
حالة السجل:	نشط	جنسية المنشأة:	قطر
عدد الفروع:	2	رقم قيد المنشأة:	17-1576-81

معلومات الاتصال

صندوق البريد:	comfortabl elimousine	أرقام الاتصال:	+

المالك

الأسم	رقم الإثبات	رقم السجل	الجنسية	الحالة
راشد حمد راشد الدعيه السنيد	29063401602		قطر	

المدراء (المخولون بالتوقيع)

الأسم	رقم الإثبات	رقم السجل	الجنسية	الصفة (الصلاحية)
راشد حمد راشد الدعيه السنيد	29063401602		قطر	مالك-(صلاحيات كاملة ومطلقة - مدير)

غـرفـــة قطـر
QATAR CHAMBER

وزارة التجـــــارة والصناعـــــة
Ministry of Commerce and Industry
State of Qatar • دولـــة قطـــر
إدارة التسجيل والتراخيص التجارية
السجل التجاري والرخص التجارية

تشهد غرفة تجارة وصناعة قطر بان المنشاة المذكورة اعلاه سجلت لدينا
Qatar Chamber certifies that the above mentioned establishment has been registered

Legal Documents

Commercial Registration (Page 2 of 2)

وزارة التجـــــــارة والصناعـــــــة
Ministry of Commerce and Industry
State of Qatar • دولـــة قطـــر

Registration and Commercial Licenses Department

إدارة التسجيل والتراخيص التجارية

مستخرج ببعض بيانات السجل التجارى

الفروع

الرقم التسلسلى	اسم الفرع	رقم السجل للفرع	حالة الفرع
1	باور كونتراكتينغ اند سيرفيسز	106921/1	نشط
2	باور كونتراكتينغ اند سيرفيسز	106921/2	نشط

الأنشطة التجارية

الرقم	إسم النشاط
8550092	اعداد البحوث و الدراسات الجامعية
8299031	تخليص المعاملات

الرقم	إسم النشاط
8299010	خدمات الترجمة
4100001	الانشاءات و المقاولات العامه

رقم السجل : 106921

غـرفـــة قطـر
QATAR CHAMBER

وزارة التجـــارة والصناعـــة
Ministry of Commerce and Industry
State of Qatar • دولـــة قطـــر
إدارة التسجيل والتراخيص التجارية
السجل التجارى والرخص التجارية

تشهد غرفة تجارة وصناعة قطر بان المنشاة المذكورة اعلاه سجلت لدينا
Qatar Chamber certifies that the above mentioned establishment has been registered

Legal Documents

Commercial Permit

تاريخ الطباعة: 2024/08/12
صفحة رقم: No 1 of 1

Registration and Commercial Licenses Department

وزارة التجارة والصناعة
Ministry of Commerce and Industry
State of Qatar - دولة قطر

إدارة التسجيل والتراخيص التجارية

رخصة تجارية

رقم الرخصة:	148752	تاريخ اصدار الرخصة:	2018/03/04
الأسم التجاري:	باور كونتراكتينغ اند سيرفيسز	تاريخ انتهاء الرخصة:	2027/02/25
نوع المنشأة التجارية:	شركة	رقم السجل التجاري:	106921
السمة التجارية:	باور كونتراكتينغ اند سيرفيسز		

بيانات المدير المسؤول :

اسم المدير المسئول:	راشد حمد راشد الدعيه السنيد	جنسية المدير المسئول:	قطر
رقم الإثبات:	29063401602		

بيانات الموقع : — **نموذج ختم المنشأة التجارية :**

تصنيف الموقع:	تجاري	عقار رقم:	44
نوع الموقع:	مكتب تجاري	رقم الدور/ الوحدة:	1
المنطقة:	53 معيذر	اسم مالك العقار:	محمدومبارك مسفر ناصر الهاجري
الشارع:	معيذر الشمالي	نوع الرخصة :	دائمة
رقم الشارع :	794	وصف العنوان :	بلدية الريان /

الأنشطة التجارية :

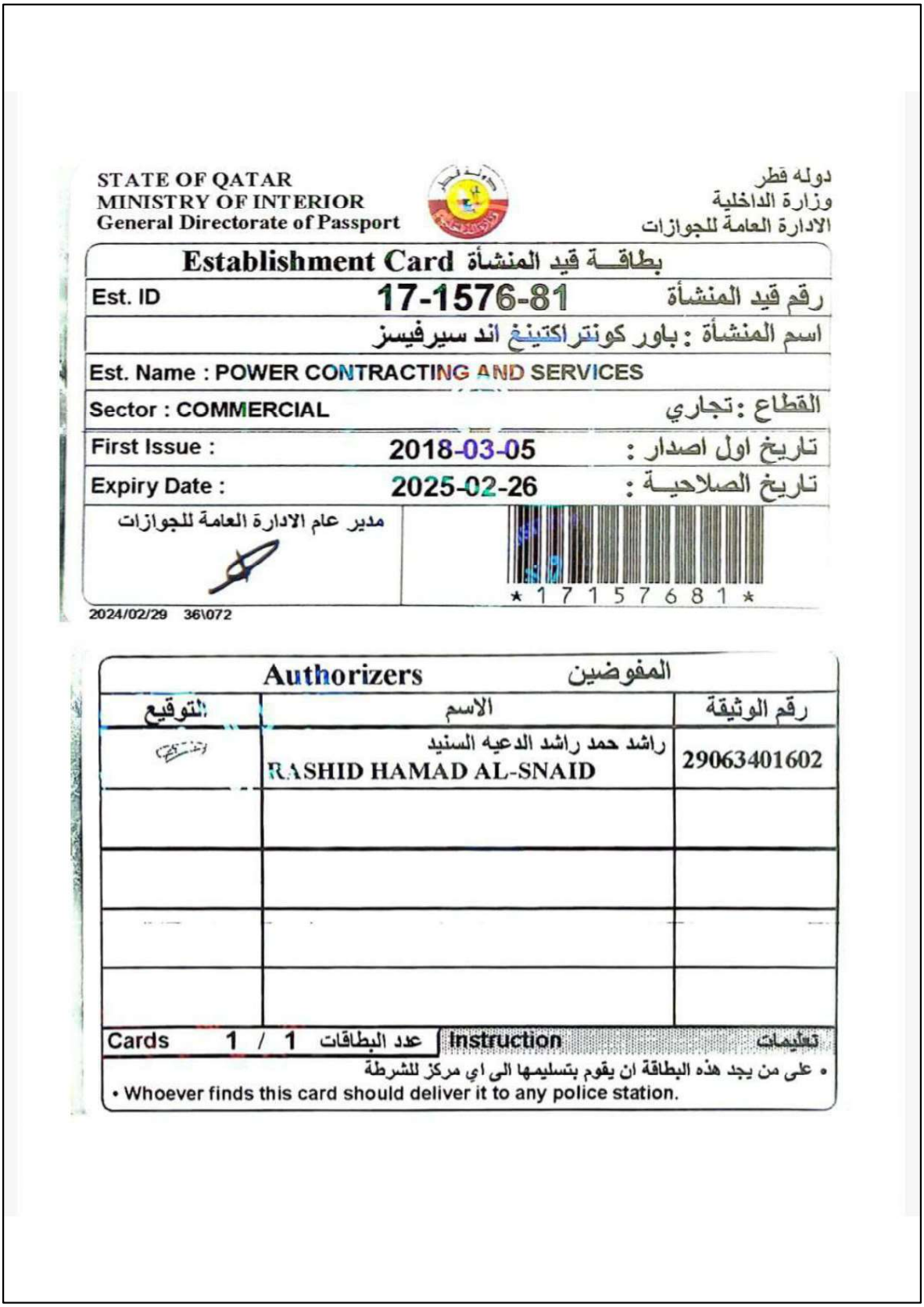
رقم النشاط	إسم النشاط
8550092	اعداد البحوث و الدراسات الجامعية
8299031	تخليص المعاملات

رقم النشاط	إسم النشاط
8299010	خدمات الترجمة
4100001	الانشاءات و المقاولات العامه

مدير إدارة التسجيل والتراخيص التجارية

Legal Documents

Establishment ID



STATE OF QATAR
MINISTRY OF INTERIOR
General Directorate of Passport

دوله قطر
وزارة الداخلية
الادارة العامة للجوازات

Establishment Card بطاقـــة قيد المنشأة

Est. ID 17-1576-81	رقم قيد المنشأة
اسم المنشأة : باور كونتراكتينغ اند سيرفيسز	
Est. Name : POWER CONTRACTING AND SERVICES	
Sector : COMMERCIAL	القطاع : تجاري
First Issue : 2018-03-05	تاريخ اول اصدار :
Expiry Date : 2025-02-26	تاريخ الصلاحيـــة :

مدير عام الادارة العامة للجوازات

★ 1 7 1 5 7 6 8 1 ★

2024/02/29 36\072

Authorizers المفوضين

التوقيع	الاسم	رقم الوثيقة
	راشد حمد راشد الدعيه السنيد RASHID HAMAD AL-SNAID	29063401602

Cards 1 / 1 عدد البطاقات

Instruction تعليمات

• على من يجد هذه البطاقة ان يقوم بتسليمها الى اي مركز للشرطة
• Whoever finds this card should deliver it to any police station.

Legal Documents

Tax Card

23/08/2023

ضريبة
Dhareeba
tax portal

TAX CARD - بطاقة ضريبية

The General Tax Authority of Qatar certifies that the entity is registered as per the following details:

تشهد الهيئة العامة للضرائب في دولة قطر أن الجهة أدناه مسجلة حسب البيانات التالية :

TIN Number	5000459115	رقم التعريف الضريبي
Taxpayer Name:	باور كونتراكتينغ اند سيرفيسز Bawr Kwntraktyngh And Syrfysz	إسم المكلف:
Commercial Registration Number	106921	رقم السجل التجاري القطري
Address [Headquarter]:	Zone: 53 :منطقة Building: :المبنى Street: شارع: معيذر الشمالي Qatar - قطر	العنوان (المركز الرئيسي) :
Main Activity:	4100001 - الانشاءات و المقاولات العامه	النشاط الرئيسي:
Legal Form:	شركة ذ.م.م مالكها شخص واحد LLC with One Person	الشكل القانوني:
Activity Commencement Date :	13/12/2018	تاريخ بدء النشاط:
Number of Branches:	2	عدد الفروع:
Registered taxes :		الضرائب المسجلة :
Income Tax	REGISTERED - 13/12/2018 -مسجل	الضريبة على الدخل

الهيئة العامة للضرائب
General Tax Authority
State of Qatar • دولة قطر

هذه الوثيقة مستخرجة من النظام الآلي و ليس من الضروري التوقيع عليها

This is a system generated document and does not require to be signed.

Legal Documents

Classification Certificates

التصنيف: عام / Classification Public

إدارة تنظيم المشتريات الحكومية

تاريخ الإصدار	03/09/2023
صالحة حتى	02/09/2025

وزارة المالية
Ministry of Finance
State of Qatar دولة قطر

شهادة تصنيف مقدم خدمة

23000028-SRV-001

بيان العناصر	النقاط المكتسبة	الحد الأقصى للنقاط
رأس المال	0.00	10
صافي الموجودات	0.00	20
مجموع قيمة العقود	0.00	25
عدد العقود	0.00	5
الكادر الإداري	10.00	10
الكادر الفني	4.00	30
مجموع النقاط	14.00	100

تشهد إدارة تنظيم المشتريات الحكومية بأن

السادة : **باور كونتراكتينغ اند سيرفيسز**

رقم السجل التجاري : **106921**

قد تم تصنيفهم في قطاع مقدمي الخدمات بالأنشطة والفئات التالية

رقم النشاط	اسم النشاط	الفئة
8299010	خدمات الترجمة	خامسة

الشروط والأحكام

يجب على المصنف عند القيام بأي تصرف قانوني يترتب عليه تعديل في مركزه القانوني بما يخل بالفئة أو المجالات التي تم تصنيفه فيها، أن يخطر الإدارة بهذا التعديل خلال خمسة عشر يوما من تاريخ إجراء هذا التصرف. ويترتب على إخلال المصنف بالتزاماته المشار إليها انتهاء صلاحية شهادة التصنيف الممنوحة له.

State of Qatar

مدير إدارة تنظيم المشتريات الحكومية

شركة متناهية الصغر

تحفيز TAHFEEZ

التصنيف: عام / Classification Public

إدارة تنظيم المشتريات الحكومية

تاريخ الإصدار	03/09/2023
صالحة حتى	02/09/2025

وزارة المالية
Ministry of Finance
State of Qatar دولة قطر

شهادة تصنيف مقدم خدمة

23000027-SRV-001

بيان العناصر	النقاط المكتسبة	الحد الأقصى للنقاط
رأس المال	0.00	10
صافي الموجودات	0.00	20
مجموع قيمة العقود	0.00	25
عدد العقود	0.00	5
الكادر الإداري	10.00	10
الكادر الفني	4.00	30
مجموع النقاط	14.00	100

تشهد إدارة تنظيم المشتريات الحكومية بأن

السادة : **باور كونتراكتينغ اند سيرفيسز**

رقم السجل التجاري : **106921**

قد تم تصنيفهم في قطاع مقدمي الخدمات بالأنشطة والفئات التالية

رقم النشاط	اسم النشاط	الفئة
8550092	اعداد البحوث و الدراسات الجامعية	خامسة

الشروط والأحكام

يجب على المصنف عند القيام بأي تصرف قانوني يترتب عليه تعديل في مركزه القانوني بما يخل بالفئة أو المجالات التي تم تصنيفه فيها، أن يخطر الإدارة بهذا التعديل خلال خمسة عشر يوما من تاريخ إجراء هذا التصرف. ويترتب على إخلال المصنف بالتزاماته المشار إليها انتهاء صلاحية شهادة التصنيف الممنوحة له.

State of Qatar

مدير إدارة تنظيم المشتريات الحكومية

شركة متناهية الصغر

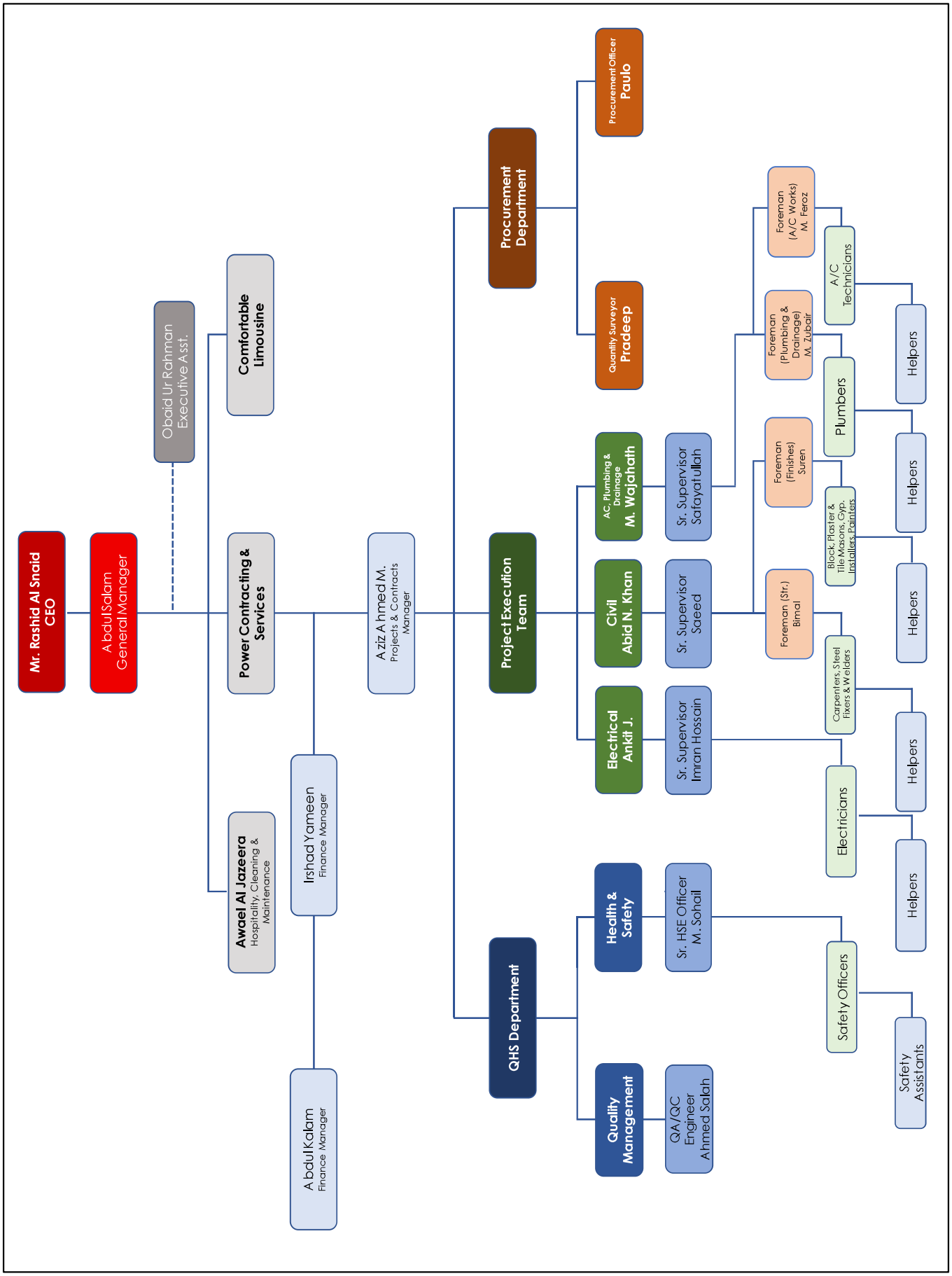
تحفيز TAHFEEZ

04

ORGANIZATION CHART

باور كونتراكتينغ اند سيرفيسز
Power Contracting and Services

Organization Chart



05

RESOURCES

Resources

Manpower

Description	No.
CEO	1
General Manager	1
Projects Contracts Manager	1
Finance Manager	1
HR & Admin Manager	1
Civil Engineer	1
Electrical Engineer	1
Mechanical Engineer	1
QA/QC Engineer	1
Quantity Surveyor	1
Sr. Safety Officer	1
Sr. Supervisor	3
Foreman	4
Executive Assistant	1
Secretary	1
Document Controller	1
Payroll Clerk	1
Accountant (Payable)	1
Accountant (Receivable)	1
Accountant (Payroll)	1
HR Officer	1
Workers' Welfare Officer	1
A/C Technician	8

Description	No.
Electrician	12
Plumber	7
Mason (Block work)	12
Mason (Plaster work)	15
Mason (Tile work)	12
Painter	15
Gypsum Installer	20
Steel Fixer	18
Carpenter	22
Erector	10
Safety Officer	6
Rigger	2
Office Boy	4
Light Driver	10
Heavy Driver	5
Helper	52

Resources

Vehicles, Equipment & Tools

Description	No.
Compactor (Plate & Roller)	2
Concrete Mixer	2
Water Pump (De-watering & Sewage)	6
Generator for Site (20 kVA)	6
Generator for Site (6 kVA)	4
Elevator Winch	4
Mobile Welding Plant	2
Bus (60 Seater)	3
Mini Van (16 Seater)	2
Dump Truck	2
Bobcat	1
3Ton Pick-up	5
Double cabin Pick-up	3
4 x 4 SUV	3
Saloon Car	5
Total Station	1
Leveling Machine	1
Digital Measuring Equipment	5
Bar Cutting Machine	4
Bar Bending Machine	4
Scaffolding	8000m^2
Water Cooler	10
Air Compressor (Heavy Duty 1 & Light Duty 2)	3

Description	No.
Table Saw Cutting Machine	2
Power Float Machine	3
Vibrator (Various capacities)	10
HILTI Breaker	6
Tool Boxes	31

06

LIST OF PROJECTS

باور كونتراكتينغ اند سيرفيسز
Power Contracting and Services

List of Projects

S. No.	Project Name	Scope of Works	Client	Consultant
1	2 Nos. G+1+P.H. Villas at Hazm Al Markhiya	Main Contractor	Mr. M. Al Mohannadi	APG
2	G+7 Hotel Apartment at Bin Mahmoud	Main Contractor	Mr. M. Al Misnad	APG
3	G+1 Palace & Ancillary Buildings at Hazm Al Markhiya	Main Contractor	Mr. M. Al Misnad	Petra Design
4	B+G+1+P.H. Palace & Ancillary Buildings at Umm Oberiyah	Finishing Works	Sheikha Naela	United Consultants
5	B+G+8 Residential Building at Old Al Ghanem	Main Contractor	Mr. M. Al Misnad	APG
6	Supply & Installation Car Park Shades including Associated Civil Works at RAIL Tower	Car Park Shades, Road Marking, Parking Accessories, Foundations, etc.	MZP / AECOM	HMC
7	G+1 Villa at Al-Khor	Main Contractor	Mr. M. Al Misnad	QDC
8	G+1 Villa at Hazm Al Markhiya	Renovation & Refurbishment	Mr. A. Al Misnad	-
9	Interior Fit-Out works for Office of PD Vivat	Complete Interior Fit-Out works including furniture, Electrical & AC Works	PD Vivat	-
10	Construction, Completion & Maintenance of G+2 Floors Jade Ladies Gym	Main Contractor	JADE Ladies Gym	DCB

List of Projects

S. No.	Project Name	Scope of Works	Client	Consultant
11	Fire & Safety Works for Carrefour at Landmark & Villagio Malls	● Passive Fire Protection ● Metal Fire rated doors ● Metal Fire rated roller shutters ● Fire Rated Gypsum Partitions	MAF Hypermarkets	MZP
12	Supply & Installation of Wooden Fire Rated & Non-Fire Rated Doors for 2 Nos. Al Sadd Buildings	Carpentry & Joinery Works	Al Khayarin Group	DCB
13	Construction, Completion & Maintenance of B+G+1+P.H. Villa at Hazm Al Markhiya	Main Contractor	Mr. M. Al Misnad	Petra Design
14	Extension of G+1 Villa at Hazm Al Markhiya	Main Contractor	Mr. M. Al Misnad	Petra Design
15	Supply & Installation of Wooden Doors for Villa at West Bay Lagoon	Carpentry & Joinery Works	Mr. Iltaf Rabbani	-
16	G+M Factory, G+2 Accommodation & Ancillary Buildings at Industrial Area	Main Contractor	HBK Engineering	Doha Design Centre
17	Warehouse at Barkat Al Awamer	Main Contractor	Al-Saher Furniture	Doha Design Centre
18	G+7 Residential Building at Umm Ghwalina (56 Apts.)	Renovation & Refurbishment	Ezdan Holding Group	MZP

07

KEY PROJECTS' PHOTOGRAPHS

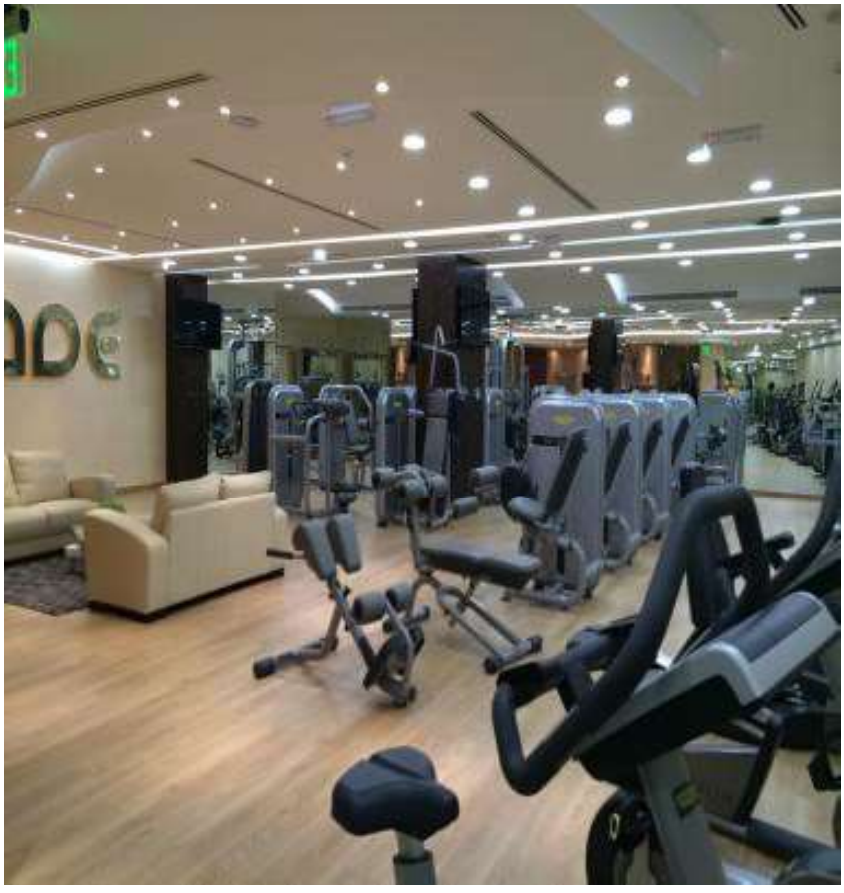
Key Projects' Photographs

G+6 Hotel Apartment at Bin Mahmoud
Construction, Completion & Maintenance

G+7 Hotel Apartment at Bin Mahmoud
Construction, Completion & Maintenance

Key Projects' Photographs

Jade Ladies Gym at Bin Omran
Construction, Completion & Maintenance



Key Projects' Photographs

G+1 Palace at Hazm Al Markhiya
Marble Works, External Stone Works

Key Projects' Photographs







B+G+1+P.H. Palace & Swimming Pool at Umm Oberiya
Finishing Works

Key Projects' Photographs






G+1 Villa at Hazm Al Markhiya
Extension, Finishes and Furniture

Key Projects' Photographs

G+2 Workers' Accommodation, G+M Factory, Mosque, Store & Ancillary Buildings at Industrial Area (Street No. 37)
Construction, Completion & Maintenance

Key Projects' Photographs

Private Villa at Markhiya
Finishing Works

08

QUALITY PLAN

The implementation of the contents of the Quality Control Plan shall be authorized and approved by the management of **PCS** effective on the date herein indicated.

The management in **PCS** ensures that appropriate communication takes place regarding the effectiveness of the quality management system.

Implementation, evaluation and updating of this Project Quality Plan as well as improvements to ISO 9001:2015 Quality Management System shall be the responsibility of the Quality Assurance / Quality Control Representative (QA/QC Representative) assigned to the Project.

Ensuring that the process needed for the quality management system are established, implemented and maintained. Reporting to top management on the performance of quality management system and any need for improvement and ensuring the promotion of awareness of customer requirements through the organization.

Project Title :

Scope of Works : The scope of works includes but not limited to:

a.
b.
c.

a.
b.

Client :

Design Consultant :

Supervision Consultant :

Main Contractor :

Power Contracting & Services, is like a family of professionals who, regardless of counting days and nights, have contributed our heart and soul and our entire dedication as well as faith, to elevate the organization with miraculous momentum towards new heights.

PCS will constantly strive to render services that are responsive to the needs of the customers, who for us, always comes first. In so doing, we shall continuously improve our services towards meeting our customers' ever changing needs, and expectations.

PCS will pursue a Management vision of excellence in entrepreneurship that will allow us to a major player in the construction industry. It is essential that we conduct our business with integrity and honor, adhering to ethical industry practices and global standards.

PCS will continuously maintain our social responsibility to our workforce and endeavor to enhance the capability of our human resources. Together, we shall pursue excellence in all areas of operations.

PCS will contribute tirelessly to the protection of our environment, to the protection of our environment, to the improvement of the life of the people and the development of our country.

Operation Manager
The Operation Manager shall be the overall in charge of the project. He shall be responsible to the project Owner in ensuring that the project is finished within the agreed timetable and cost at the required quality level expected. He shall be the lead personnel in evaluation and selection of subcontractors & suppliers.

Project Manager
The PM directly coordinate with the contractor's production groups and the subcontractors regarding quality and scheduling activities. He monitors the progress of construction activities for reporting and billing processing, as well as oversee all day-to-day activities at the site. Senior Project Manager will report to Operation Manager.
The Senior Project Manager assumes the Operation Manager's role in the latter's absence or as designated. He shall assist in cascading the QC System to the production levels.

Construction Manager
The CM shall assist in cascading the QC System to the Project Engineers, the subcontractors and ultimately the work force. As the leader Project Organization, they will be responsible the overall setting of the goals of the Group and for coordinating design issues, ensuring shop drawings submittals are approved, resolution of quality-related issues, and maintaining the quality manual. Shall be prepared to serve as QC Manager whenever so designated. CM will report to Project Manager.

Project Engineers
The Project Engineers performs the detailing such as preparation of shop drawings, technical specifications, methodologies and other related works necessary for the Preliminary Phase.

The Project Engineers are responsible for implementing the quality aspects in the work. They coordinate with the Project Manager and Subcontractors' Representatives on QC activities that need to be done, and vice-versa. They perform inspections on all works and structures.
Familiar with his discipline subcontract conditions (scope of work, quality and safety,schedule, subcontract price, general conditions of subcontract); identifies gaps between the OWNER and PCS main contract and discipline subcontract and develops/implements effective measures to address the gaps. Project Engineers will report to Project Manager/Construction Manager.

Site Engineers
Ensures availability of resources and information (construction documents, approved shop drawings and materials, manpower, construction tools & equipments, etc) to support operations of subcontractors and the PCS direct work force.

Site Engineers should familiar with the duties of a Project Engineer and assume its duties and authority as alternate, whenever designated or scheduled to do so within his area of responsibility.

The MEP Coordinator performs detailed inspections on all mechanical, electrical, plumbing, sanitary and fire protection works. He also coordinates with Operations through the Project Engineers and with subcontractors in resolving deviations from plans and specification. He shall be prepared to serve as the MEP Head whenever so designated. Site Engineers and MEP Coordinator will Report to Project Engineer.

Quantity Surveyor
The Quantity Surveyor collates data and quantities of materials, labor, equipment, and subcontractors. He also monitors cost-implications resulting from variations approved by consultants, prepares monthly progress reports, and processes the billings of subcontractors
Familiar with the OWNER's Main Contract conditions (scope of work, quality and safety, schedule, contract price, and general conditions of contract).

Project Planner/Scheduler
The Project Planner maintains the project schedule up to date. Develops in accordance with the master schedule a detailed construction schedule of the activities under his responsibility; continuously monitors and implements actions necessary to achieve planned results.

QA/QC Engineer
The QA/QC Engineer shall perform the following tasks:
Preparation and Implementation of the Project Quality Plan.
Familiar with the established documentation process and is responsible to develop the submittals-testing-inspection plans and to effectively implement Quality Control process for the definable features of work within his area of concern.
Shall be responsible ensuring that materials and supplies, as well as testing procedures, used on the project are to specification and coordinate with materials suppliers and independent laboratories on analysis of various materials.

Safety Officer
The EHS Safety Officer shall be responsible for developing and implementing the environmental health and safety aspects in the construction area. He shall lead implementation of the Safety Manual. Safety Team will report to Senior Project Manager.

Project Secretary
The Project Secretary performs secretarial and clerical work for the entire project group. Processing and safekeeping/archiving of documents related to project construction. In charged with interfacing with Operations in maintaining and operating the documentation process and manages project documents.

Storekeeper
The Storekeeper is responsible for receiving and logging all materials received on site. He will play a vital role in distribution and issuance of materials to the project.

Timekeeper
The Timekeeper monitors and maintains time logs of all personnel involved in the project.

Surveyor
The Surveyor (Line & Grade Engineer) shall be responsible for verifying measurements regarding layout, elevations, and verticality of columns.

Foreman
The Field Foreman directly supervises all civil/structural/trade activities on site, and coordinates instructions from the Project Engineers and Site Engineers to the subcontractors.

Management Commitment

The Management in Power Contracting & Services is committed to the development and implementation of Quality Management System and continually improves its effectiveness by:

a) Communicating to the organization the importance of meeting customers as well as statutory and regulatory requirements,
b) Establishing a Quality Policy
c) Establishing quality objectives
d) Conducting Management Reviews
e) Ensuring the availability of resources

The Management of PCS specifies requirements for a QMS:

f) Strive hard to demonstrate its ability to consistently provide product that meets clients and applicable regulatory requirements.
g) Aims to enhance client's satisfaction through the effective application of the system. This includes processes for continual improvement of the system and the assurance of conformity and applicable regulatory requirements.

Management Review

The Management Team of the Project, together with the Corporate Management of PCS, shall conduct regular reviews of the Quality Management System. OWNER and Consultants are also encouraged to participate in the Quality Management System review. Topics to be discussed shall include deficiencies of the system, proposed improvements, and other matters. The PCS Management team shall ensure that the objectives of the review are carried out.

The Quality Assurance begins even in the preconstruction stage and requires the participation of the design team and the contractor's field engineering, scheduling and procurement sections.

Quality Assurance Roles include the following:

- Redi-check plans and specifications to eliminate coordination problems and conflicting requirements, recognizing that plans and specifications are rarely complete or perfectly coordinated for construction.
- Review the plans and specifications for constructibility and compatibility of materials to be used in construction, anticipating product and system substitutions that may be proposed.
- Define bid packages to eliminate overlaps and gaps in the scope of work of several trade contractors to be integrated into the project.
- Write contract documents to include mock-up construction in the trade contractors' scope as a means of setting a proactive quality standard prior to actual installation.
- Ensure the selection of quality trade contractors (subcontractors) through appropriate pre-qualification process.
- Establish submittal log, which is coordinated with the construction schedule.
- Identify long lead items in the construction schedule for early requisition and purchase.
- Require design team consultants to list their unusual requirements and anticipated defect-prevention recommendations for construction.
- Conduct preconstruction meetings with subcontractors to establish quality requirements, workmanship standards, and the system of progress inspection and immediate correction.

The **Quality Control Plan** is an outline of the system of procedures and personnel to be employed by the Contractor to ensure that the work complies with the Contract. The Quality Control is the backbone of the Quality Management System. The process covers both on-site and off-site work and is applied on each definable feature of work (DFOW).

Definable Feature of Work
It is a task that is:

a) separate and distinct from other tasks; and,
b) requires separate quality control requirements.

It is identified by different trades or disciplines and is an item or activity on the construction schedule. Each specification section could be considered a definable feature of work. But there is frequently more than one definable feature of work under a particular section.

QA/QC Team
The minimum composition of the QA/QC team are:

a) QC Manager (or his designated Alternate/Assistant)
b) Project Engineer in-charge of definable feature of work and/or subcontractor
c) MEP Specialists (each trade concerned)
d) Site Engineers (each discipline concerned)
e) Subcon Representative (or his QC Representative)
f) Subcon Foreman in charge of work crew for definable feature of work.

Quality Control Plan

Project Manager monitors (or initiates, as the case may be) the schedule-driven tasks to verify the status of documentation and action items checklist.

Action by entire team:

a) Review of applicable specification sections and Contract Drawings
b) Verify appropriate submittals (shop drawings, factory test results, certifications, etc.) for materials & equipments have been approved.
c) Review Testing Plan and ensure that required testing have been met.
d) Examine work area to ensure that required preliminary work has been completed
e) Examine the required materials, equipments, and sample work to ensure that they are on hand and conform to the approved shop drawing or submittal data
f) Plan ahead by discussing construction methods, construction tolerances, workmanship standards, and potential problems identified for each DFOW.
g) Review the Safety Plan and appropriate activity hazard analysis to ensure that applicable safety requirements are met.
h) Capture how information will be clearly conveyed by the foreman to the crews conducting the work.
i) Observe the initial segment of the DFOW to ensure that the work complies with Contract requirements
j) Establish the quality of workmanship required
k) Resolve conflicts
l) Ensure that testing is performed by the approved laboratory
m) Ensure the work for each activity is in compliance with contract requirements
n) Maintain the quality of workmanship required.
o) Perform safety inspections.

PCS (including Subcontractors) must accept Quality Control responsibilities. When subcontractors fail to control their own construction processes and those of their suppliers, enforcement becomes a vital element. Timely and firm action is a major factor in resolving QC issues. This includes elevating problems to appropriate levels within the contractor's organization, as well as the use of the various enforcement mechanisms available in the contract.

Quality Management Problems
The problems associated with QC vary, but most fall into the following categories:

* Commencing work without an acceptable, approved Quality Plan and Safety Plan.
* Inadequately developed QC provisions.
* Inadequately enforced QC provisions.
* Delay in submitting an acceptable Quality Plan.
* Inadequate qualifications of personnel in the quality control organization.
* Untimely or incomplete daily reports.
* Inadequate controls on each definable feature of work.
* Failure to take corrective action when deficiencies exist.
* Late and incomplete reporting of tests and inspections.
* Lack of interest by subcontractor's management personnel.
* Failure to verify punch-list item completion.
* Submittal processes.

Corrective Measures

The contracts provide the means to enforce subcontractor compliance. Reasonable but firm application of these provisions can be as effective in enforcing QC as it is for any other contract requirement. Implementation of any enforcement action requires careful consideration, along with complete and timely documentation. Actions that should be considered are:

* Removal and Replacement of Defective Materials or Workmanship
* Disallow Payment
* In addition to disallowing payment, payment shall be withheld in the form of retention from the Subcontractor's request for payment.
* Non-Payment for Unapproved Materials
* Removal of Incompetent/Careless/Objectionable Personnel
* Subcontractor Performance Evaluation, failure by the Subcontractor to provide an adequate QC System or marginal performance despite repeated written notification should result in an unsatisfactory rating.
* Stop the Work,terminating the Subcontractor's right to proceed with the work.

Quality Objectives

Top management at Power Contracting & Services ensures that quality objectives including those needed to meet requirements for the service are established at relevant function and levels within the organization. These quality objectives are consistent with the quality policy.

* To meet or exceed customers expectations by effective communication and review of customer requirements
* To provide our customers with high quality services on time at reasonable cost,
* To effective manage our processes and services to provide superior customer satisfaction
* Promote safety awareness and well being of employees through training and education.

Quality Management System Planning

PCS management ensures that:

* The planning of the quality management system is carried out in order to meet the requirements as well as the quality objectives, and
* The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

Auditing System

PCS performs regularly scheduled external and internal audits. These audits are a measure of how quality system is working.

External Audits Schedule

Section No.	Description	Schedule (Bi-Monthly)	
		May	Nov
4.1	General	✓	✓
4.2	Documentation	✓	✓
5.1	Management Commitment	✓	✓
5.2	Costumer Focus	✓	✓
5.3	Quality Policy	✓	✓
5.4	Planning	✓	✓
5.5	Responsibility, Authority and Communication	✓	✓
5.6	Management Review	✓	✓
6.1	Provision of Resources	✓	✓

Internal Audits Schedule

Section No.	Description	Schedule (Quarterly)			
		Mar	Jun	Sep	Dec
4.1	General	✓	✓	✓	✓
4.2	Documentation	✓	✓	✓	✓
5.1	Management Commitment	✓	✓	✓	✓
5.2	Costumer Focus	✓	✓	✓	✓
5.3	Quality Policy	✓	✓	✓	✓
5.4	Planning	✓	✓	✓	✓
5.5	Responsibility, Authority and Communication	✓	✓	✓	✓
5.6	Management Review	✓	✓	✓	✓
6.1	Provision of Resources	✓	✓	✓	✓

DAILY REPORT / SITE DIARY

PROCEDURE	RESPONSIBLE	DETAILS
Site Engineer prepares the Daily Report and submit it to the Site Secretary	Site Engineer QA/QC Engineer Safety Officer Secretary /Document Control	PCS Site Engineer to prepare 3 set (1 original and 2 copies) of Daily Report incorporating manpower, machineries, site activities, quality and safety issues and submit to Site Office
↓		
Secretary to assigns reference Numbers and log into the log book.	Secretary /Document Control	Docs Group route the report to Project Manager for verification and approval.
↓		
Check and approved the Daily Report	Project Manager	
↓		
Daily Report Transmit to Consultant	Secretary /Document Control	One copy to kept on file.

WEEKLY & MONTHLY REPORT

PROCEDURE	RESPONSIBLE	DETAILS
Site Engineer prepares the Weekly or Monthly Report and submit it to the Site Secretary for transmittal	Site Engineer Project Engineer QA/QC Engineer Safety Officer Secretary /Document Control	Site Engineer to prepare 3 set (1 original and 2 copies) of Weekly or Monthly Report incorporating manpower, machineries, site activities, quality and safety issues and submit to Site Secretary.
Secretary to assigns reference Numbers and log into the log book.	Secretary /Document Control	Secretary route the report to Project Manager for verification and approval.
Check and approved the Weekly or Monthly Report	Project Manager	
Weekly or Monthly Report Transmit to Consultant	Secretary /Document Control	One copy to kept on file.
Consultant's Planning Engr. verifies and confirms information.	Consultant's Planning Engineer	

MATERIAL, SHOP DRAWING & SAMPLE SUBMITTAL

The objective of this procedure is to ensure that submittals for approval of consultants, and if necessary, the Owner, are processed within the allotted time. The Project Engineer in charged with the subcontractors drive the submittals process.

PROCEDURE	RESPONSIBLE	DETAILS
Prepare Submittal for Approval Form (Material, Drawing or Sample)	Project Engineer Project Coordinator	The Project Engineer prepares 3 sets (1 original & 2 copies) of the submittal and submits this to the Project Manager through the Docs Group, who verifies the submittal for completeness.
Verify form and content	Project Manager	
Docs Group to assigns reference Numbers and log into the Submittal Logs.	Project Manager Secretary /Document Control	The Project Manager directs the Docs Group to log the Submittal, and route the 2 copies with attached letter to the Consultant. One copy kept on file
CONSULTANT's/CLIENT's review and action	Consultant Client	
Return response to M &AG Secretary receives 1 copy of the Submittal and logs it in incoming document logbook.	Consultant Project Manager Secretary /Document Control	-Project Manager receives the document and endorses Submittal to Group and directs the Docs Group to log the document and updates the Submittal Log
One photocopy each is given to the QA/QC Rep. and Project Engrs. One original is filed in central documentation.	Secretary	If the Project Manager so directs it, Docs Group also furnishes the other support groups a copy.

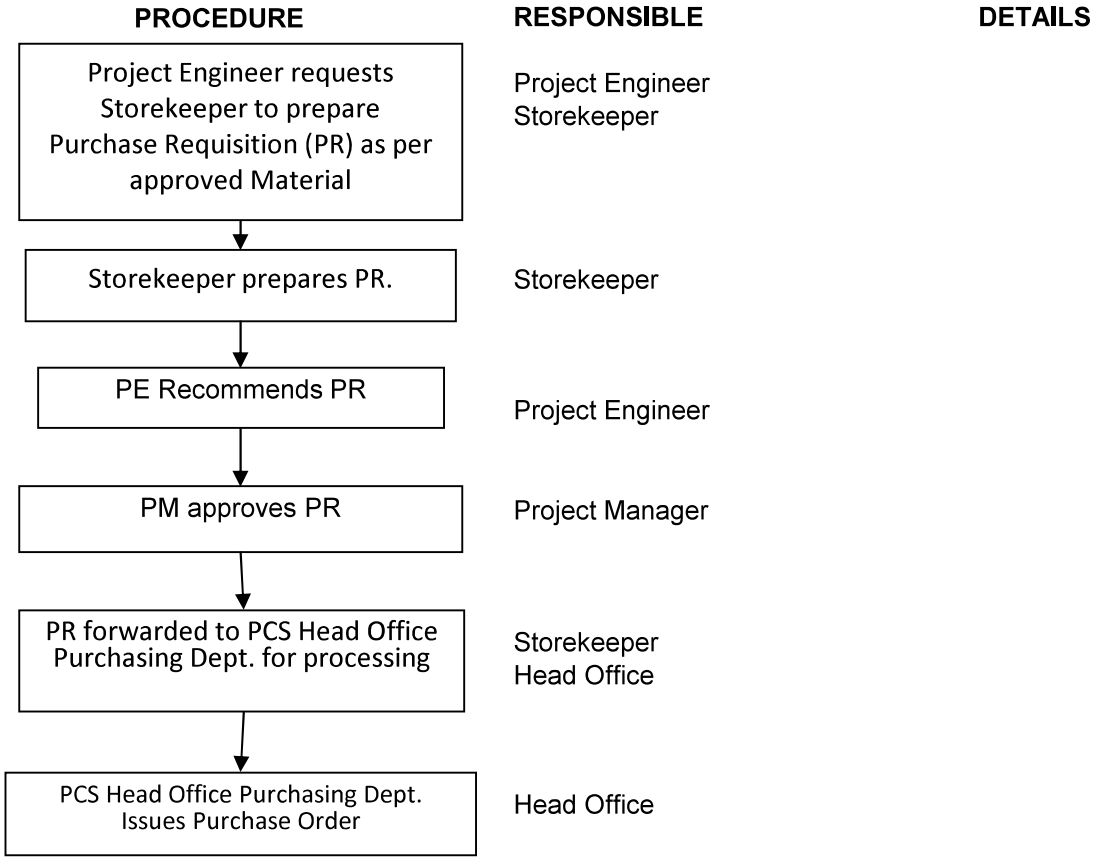
REQUISITION of SUBCONTRACTOR SERVICES

The objective of this procedure is to ensure that the subcontractors employed by PCS have demonstrated competence in their respective fields. This is also to ensure that contracts with the subcontractors are to the best interest of PCS and Clients.

PROCEDURE	RESPONSIBLE	DETAILS
PCS Head Office supplies a list of	PCS Head Office	
PM invites accredited subcontractors to prebid conference to discuss project.		
Bids submitted to Head Office and opened by Bidcom.		
PM prepares quotation evaluation report and forwards to PCS Head Office, chooses the least cost bid.	Project Manager	PM and Cost Engineer chooses the best bid based on cost, technical capacity, and reputation of company
PCS Head Office Engineering evaluates bid and revises contract amount if necessary.	Head Office	
Bidcom negotiates with the bidder for better terms and/or price	Head Office	
Contract Admin prepares Memo and forwards to PM. Memo is used as basis for the contract between PCS and subcon.	Head Office Project Manager	Memo contains the final price and terms. Contract will be between the Project Team and the subcontractor.

PROCUREMENT of MATERIALS

The objective of this procedure is to ensure that project materials and supplies are sourced only from pre-approved suppliers with demonstrated quality performance.



REQUEST FOR INFORMATION

The objective of this procedure is to ensure that requests for information/clarification (RFI) for response from consultants are processed within the allotted time.

PROCEDURE	RESPONSIBLE	DETAILS
Prepare the Request for Information Form	Site Engineer Project Engineer	Submits 3 sets (1 original & 2 copies) of the RFI to the Project Manager, who notes the nature of the query.
Verify form and content	Project Manager	
Secretary to assigns reference Numbers and log into the RFI Log.	Project Manager Secretary /Document Control	The Project Manager directs the Docs Group to log the Transmittal, and route the 2 copies with attached letter to the Consultant. One receiving copy kept on file.
CONSULTANT's review and action	Consultant	Allow for at least (14) Fourteen working days for review/response.
Return response to PCS Secretary receives 1 original copy of the RFI and logs it in incoming document logbook.	Consultant Project Manager Secretary /Document Control	Project Manager receives the document and endorses RFI to M&AG and directs the Secretary to log the document and updates the RFI Log.
One photocopy each is given to the PCS Representatives One original is filed in central documentation.	Secretary /Document Control	If the PM so directs it, Secretaryalso furnishes the other support groups a copy.

REQUEST FOR INSPECTION/TESTING (RFIT)

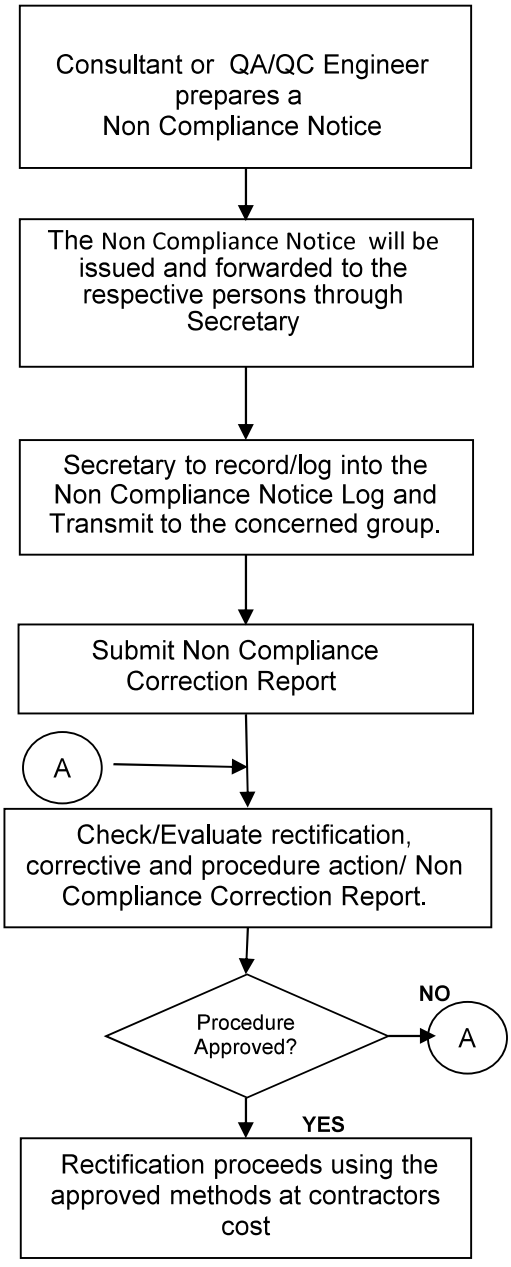
PROCEDURE	RESPONSIBLE	DETAILS
Project Engineer or Sub-con Rep. submits Request for Inspection/Testing to Secretary	Project Engineer QA/QC Engineer Safety Officer Sub-Contractor Rep.	Minimum of 1 day before scheduled activity. Prepare 3 sets (1 original & 2 copies). The Project Engr., QA/QC Engr., Safety Officer and Sub-con(if required) will check the activity and sign the Request for Inspection/Testing form.
Secretary assigns Numbers and log into the Inspection Request Log.	Secretary /Document Control	
Project Engineer schedules joint inspection date (with Consultant, QA/QC Engr., Safety Officer, and Site Engrs of concerned trades)	Project Engineer	For Concrete Pouring attach Request for Concrete Pour Form Attach Checklist for the respective activities/work
Project Engr., QA/QC Engr., Safety Officer and Consultant will	Project Engineer QA/QC Engineer Safety Officer Consultant	Consultants remark on visual correctness of the work in-place as specified by the latest Approved Construction documents.
request approved ? → NO (A) / YES	Consultant	Permit is considered approved once signed by consultants.
Consultant, Project Engr, Secretary keeps one copy each.	Consultant Project Engineer Secretary /Document Control	
Activity proceeds as per approved schedule	Project Engineer Site Engineer/s	
(A) Project Engr/Site Engrs facilitates corrective/remedial action (B)	Project Engineer Site Engineer/s	

MATERIAL DELIVERED ON SITE (MATERIAL INSPECTION REQUEST)

The objective of this procedure is to ensure that materials being used for construction are properly tested and evaluated.
Incoming materials shall be inspected by the QA/QC Engineer and Consultant. Materials will be verified against approved product specifications and approved materials for compliance. Testing of materials is guided by the Testing Plan and Technical Specifications .

PROCEDURE	RESPONSIBLE	DETAILS
Upon arrival of deliveries for use of [sub]contractors, Team checks delivery against the specifications of approved materials	QA/QC Engineer Storekeeper Sub-contractor	Sub-contractor or Storekeeper prepares 3 sets (1 original & 2 copies) of the Material Inspection Request (MIR) and submits these to the QA/QC Engineer if the [sub]contractor wants to get approval for a specific material.
Samples are taken at random from the delivery lot.	QA/QC Engineer Consultant	QA/QC Engineer and Consultant to obtain samples per lot and will check if the materials are of the approved kind.
CONSULTANT's review and action	Consultant	Consultant will filled in his comments and return MIR to the contractor for action.
Samples meet specifications ? → NO: Lot is rejected YES	QA/QC Engineer Storekeeper	Unsatisfactory materials shall be quarantined on-site pending haul-out by the supplier. **Tested and Approved materials are properly tagged to prevent unauthorized use.**
Filled-in Material Inspection Request (MIR) is returned to [Sub]contractor	Secretary /Document Control	The QA/QC Engineer, and the [sub]contractor will sign on the commented copy of the MIR to signify receipt.

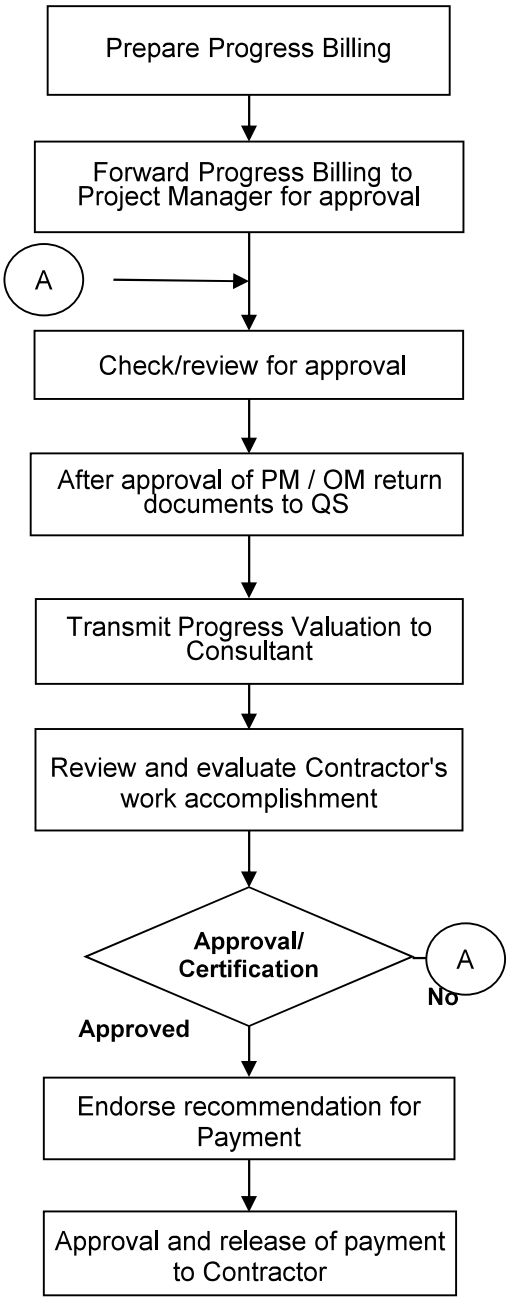
NON COMPLIANCE NOTICE (Non Conformance Report)



PROCEDURE	RESPONSIBLE	DETAILS
Consultant or QA/QC Engineer prepares a Non Compliance Notice	Consultant QA/QC Engineer	3 sets (1 original & 2 copies) of the Non Compliance Notice will be filled up one sheet per defect, after evaluating defects observed during inspection, and no remedial measure is found acceptable.
The Non Compliance Notice will be issued and forwarded to the respective persons through Secretary	Consultant QA/QC Engineer Secretary /Document Control	
Secretary to record/log into the Non Compliance Notice Log and Transmit to the concerned group.	Secretary Quantity Surveyor	(1) copy for Quantity Surveyor for Cost/Time evaluation. Quantity Surveyor issues a copy of Non Compliance Notice and QS evaluation Report to the PCS concerned, if no remedial work is found.
Submit Non Compliance Correction Report	Project Engineer Sub-contractor	Submit rectification, corrective and preventive procedures per defect.
A		
Check/Evaluate rectification, corrective and procedure action/ Non Compliance Correction Report.	Consultant QA/QC Engineer	
Procedure Approved? NO → A	Project Engineer Sub-contractor	Submit revise rectification, corrective and preventive procedures.
YES		
Rectification proceeds using the approved methods at contractors cost	Consultant QA/QC Engineer Project Engineer	QA/QC Engineer, Project Engineer, Consultant., check/inspect the area rectified.

PROGRESS VALUATION

The objective of this procedure is to ensure that regular progress valuation are submitted to the client accurately and at the agreed schedule.

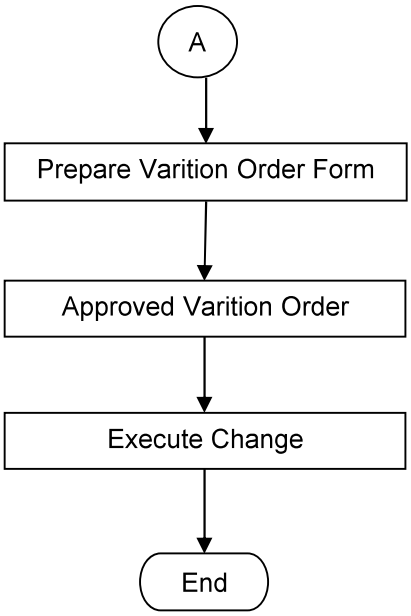


PROCEDURE	RESPONSIBLE	DETAILS
Prepare Progress Billing	QS	Based on the progress report from project site. Prepare 3 sets (1 original & 2 copies).
Forward Progress Billing to Project Manager for approval	QS Secretary /Document Control	Secretary route the Valuation to Project Manager for verification and approval.
A → Check/review for approval	Project Manager / Operation Manager	
After approval of PM / OM return documents to QS	Project Manager / Operation Manager	
Transmit Progress Valuation to Consultant	QS / Secretary /Document Control	
Review and evaluate Contractor's work accomplishment	Consultant's QS	
Approval/ Certification — No → A	Consultant's QS M&AG QS	PCS QS to rectify and correct the Consultant's comments and re-submit the Valuation.
Approved → Endorse recommendation for Payment	Consultant	
Approval and release of payment to Contractor	Client	

VARIATION ORDERS

PROCEDURE	RESPONSIBLE	DETAILS
Consultant prepares a Variation Order Request	Consultant	Based on technical meetings, the Owner or Owner's Rep initiates a variation order. Instruction is given to Consultant and PCS - Contract to document variation orders
Review Variation if any	HEAD OFFICE QS Dept.	Head office directs QS to perform technical and economic consideration of alternatives.
Consultant Recommends Alternatives	Consultant	
Time & Cost → No → Execute Instructions → End		
Yes		
Prepare/Issue revised plans and specifications	Consultant	
Submit time and cost estimate to QS	Project Manager/ Project Engineer	
Review estimate cost/time for variation order	QS Dept.	
Negotiation	Client Contractor	
Agree on Time & Cost? → No → Proceed under provisions "Disputed Work" → End		
Yes		
A		

VARIATION ORDERS

PROCEDURE	RESPONSIBLE	DETAILS
	Head Office QS Client/ Consultant M&AG	PMO prepares a Variation Order for the Owner's approval Owner/Consultant signs and issues document to the Contractor Project Manager directs the Documentation Group to log the Variation Order, and Accounting/Planning to effect changes in contract amount/schedule. Secretary furnishes a copy of VO to the Project/Site Engineers.

AS-BUILT DRAWING SUBMITTAL

The objective of this procedure is to ensure that as-built drawing submittals for approval of consultants, and if necessary, the Owner, are processed within the allotted time. The Project Engineer in charged with the subcontractors drive the submittals process.

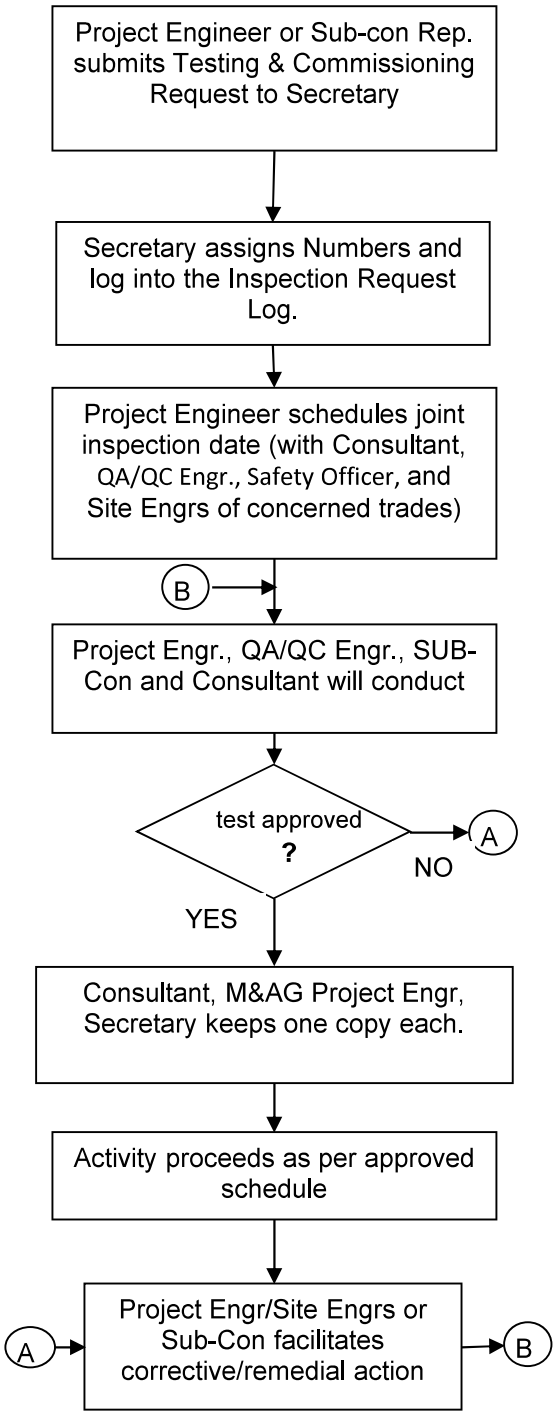
PROCEDURE	RESPONSIBLE	DETAILS
Prepare Submittal for Approval Form (As-Built Drawing)	Project Engineer Project Coordinator	The Project Engineer prepares 3 sets (1 original & 2 copies) of the as-built dwg. submittal and submits this to the Project Manager through the Secretary, who verifies the submittal for completeness.
Verify form and content	Project Manager	
Secretary to assigns reference Numbers and log into the Submittal Logs.	Project Manager Secretary /Document Control	The Project Manager directs the Secretary to log the Submittal, and route the 2 copies with attached letter to the Consultant. One copy kept on file
CONSULTANT's/CLIENT's review and action	Consultant Client	
Return response to PCS Secretary receives 1 copy of the Submittal and logs it in incoming document logbook.	Consultant Project Manager Secretary /Document Control	Project Manager receives the document and endorses Submittal to PCS and directs the Secretary to log the document and updates the Submittal Log
One photocopy each is given to the QA/QC Rep. and Project Engrs. One original is filed in central documentation.	Secretary	If the Project Manager so directs it, Secretary also furnishes the other support groups a copy.

OPERATION & MAINTENANCE MANUAL (O&M Manual) SUBMITTAL

The objective of this procedure is to ensure that O&M Manual submittals for approval of consultants, and if necessary, the Owner, are processed within the allotted time. The Project Engineer in charged with the subcontractors drive the submittals process.

PROCEDURE	RESPONSIBLE	DETAILS
Prepare Submittal for Approval Form (O&M Manual)	Project Engineer Project Coordinator	The Project Engineer prepares 3 sets (1 original & 2 copies) of the O&M Manual submittal and submits this to the Project Manager through the Secretary, who verifies the submittal for completeness.
Verify form and content	Project Manager	
Secretary to assigns reference Numbers and log into the Submittal Logs.	Project Manager Secretary /Document Control	The Project Manager directs the Secretary to log the Submittal, and route the 2 copies with attached letter to the Consultant. One copy kept on file
CONSULTANT's/CLIENT's review and action	Consultant Client	
Return response to PCS Secretary receives 1 copy of the Submittal and logs it in incoming document logbook.	Consultant Project Manager Secretary /Document Control	Project Manager receives the document and endorses Submittal to PCS and directs the Secretary to log the document and updates the Submittal Log
One photocopy each is given to the QA/QC Rep. and Project Engrs. One original is filed in central documentation.	Secretary	If the Project Manager so directs it, Secretary also furnishes the other support groups a copy.

TESTING & COMMISSIONING



PROCEDURE	RESPONSIBLE	DETAILS
Project Engineer or Sub-con Rep. submits Testing & Commissioning Request to Secretary	Project Engineer QA/QC Engineer Safety Officer Sub-Contractor Rep.	Minimum of 1 day before scheduled activity. Prepare 3 sets (1 original & 2 copies). The Project Engr., QA/QC Engr., Safety Officer and Sub-con(if required) will check the activity and sign the Testing & Commissioning Request form.
Secretary assigns Numbers and log into the Inspection Request Log.	Secretary /Document Control	
Project Engineer schedules joint inspection date (with Consultant, QA/QC Engr., Safety Officer, and Site Engrs of concerned trades)	Project Engineer	
Project Engr., QA/QC Engr., SUB-Con and Consultant will conduct	Project Engineer QA/QC Engineer Sub-Contractor Rep. Consultant	Consultants remark on the tests of the activities or items as specified by the latest Approved Construction documents.
test approved ?	Consultant	Test is considered approved once signed by consultants.
Consultant, M&AG Project Engr, Secretary keeps one copy each.	Consultant Project Engineer Secretary /Document Control	
Activity proceeds as per approved schedule		
Project Engr/Site Engrs or Sub-Con facilitates corrective/remedial action	Project Engineer Site Engineer/s Sub-Contractor Rep.	

Form No:
Initiator: **PCS Project Engineer**
Originals to: **Consultant**
Copies to: **PCS Project Engineer**
PCS Docs Group

FINAL DOCUMENTATION & CLOSE-OUT

Completion of the work shall mean substantial completion of the project or specified area of the project. The date of such substantial completion of a project or specified area of a project is the date when the construction is sufficiently completed, in accordance with the contract documents, as modified by any change orders agreed to by the parties, so that the Owner can occupy or utilize the project or specified area of the project for the use of which it was intended.

PROCEDURE	RESPONSIBLE	DETAILS
Work/Activity finishes and completed	PCS Representative Sub-Contractor Rep.	
A → MPCS or Sub-con submits final documentation to Consultant	PCS Representative Sub-Contractor Rep.	
Consultant checks if required documentation, including snagging, are complete	Consultant	
documentation complete ?	Consultant	
NO → A		
YES		
Consultant recommends to Client to issue Certificate of Partial Acceptance to Contractor	Consultant Client Representative	
Project Manager may subsequently issue Notice of Completion to the Client	Project Manager	

LEGEND: **EX**=Executes **WP**=Witness **HP**=Hold **RR**=Record Review

CIVIL and STRUCTURAL WORKS

ITEM	ACTIVITY	REFERENCE DOCUMENTS	INSPECTION & TEST DETAILS	SURVEILANCE POINTS				VERIFICATION RECORDS
				Testing Agency	M&AG	CONS.	CLIEN.	
Excavation, Filling and Backfilling for Building Construction								
1	**Excavation**		Visual / Survey Instruments		EX	HP	RR	Excavation Permit / Inspection Request
2	**Monitoring**		Visual / Survey Instruments		EX		RR	Inspection Request
3	**Shoring, Bracing and Protection for Excavation**		Visual		EX	HP	RR	Inspection Request
4	**Backfill Materials**		Laboratory Test	EX	WP	WP	RR	Test Results
5	**Backfilling**		Field Density Test	EX	WP	WP	RR	Inspection Request / Test Results
6	**Finish Grading**		Visual / Survey Instruments		EX	HP	RR	Inspection Request
7	**Disposal of Excess Materials**		Visual		EX	HP	RR	Inspection Request
8	**Soil Treatment**		Visual		EX	HP	RR	Inspection Request
Roads & Pavings								
9	**Materials**		Visual		EX	HP	RR	Material Submittal Form
10	**Delivery**		Visual		EX	HP	RR	Material Inspection Request
11	**Sampling and Testing**		Laboratory Test	EX	WP	WP	RR	Test Results
12	**Surface Preparation**		Visual / Survey Instruments		EX	RR	RR	Approved Shop Drawing
13	**Subgrade & Subbase Laying**		Visual / Manual Measurements		EX	HP	RR	Inspection Request
14	**Kerbstone Installation**		Visual / Manual Measurements		EX	HP	RR	Inspection Request
15	**Asphalt Laying**		Visual / Manual Measurements		EX	HP	RR	Inspection Request
16	**Pavement Markings**		Visual / Manual Measurements		EX	HP	RR	Approved Shop Drawings/Inspection Request
17	**Traffic Signs Installation**		Visual / Manual Measurements		EX	HP	RR	Approved Shop Drawings/Inspection Request

LEGEND: **EX**=Executes **WP**=Witness **HP**=Hold **RR**=Record Review

CIVIL and STRUCTURAL WORKS

ITEM	ACTIVITY	REFERENCE DOCUMENTS	INSPECTION & TEST DETAILS	SURVEILANCE POINTS				VERIFICATION RECORDS
				Testing Agency	M&AG	CONS.	CLIEN.	
Concrete Reinforcement								
18	**Materials**		Visual		EX	HP	RR	Material Submittal Form
19	**Delivery**		Visual		EX	HP	RR	Material Inspection Request
20	**Sampling and Testing**		Visual	EX	WP	WP	RR	Test Results
21	**Fabrication**		Visual		EX	RR	RR	Approved Shop Drawing
22	**Installation**		Visual / Manual Measurements		EX	HP	RR	Inspection Request
Cast-in-Place Concrete								
23	**Design Trial Mix**		Visual	EX	WP	WP	RR	Test Results
24	**Materials**		Visual		EX	HP	RR	Material Submittal Form
25	**Delivery**		Visual		EX	HP	RR	Material Inspection Request
26	**Formworks**		Visual		EX	HP	RR	Inspection Request
27	**Measuring, Mixing, Transporting and Placing Concrete**		Visual		EX	HP	RR	Inspection Request
28	**Surface Finishes**		Visual		EX	HP	RR	Inspection Request
29	**Curing and Protection**		Visual		EX	HP	RR	Inspection Request
30	**Sampling and Testing of Concrete**		Field & Laboratory Tests	EX	WP	WP	RR	Test Results

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CIVIL and STRUCTURAL WORKS

ITEM	ACTIVITY	REFERENCE DOCUMENTS	INSPECTION & TEST DETAILS	SURVEILANCE POINTS				VERIFICATION RECORDS
				Testing Agency	M&AG	CONS.	CLIEN.	
Masonry								
31	**Materials**		Visual		EX	HP	RR	Material Submittal Form
32	**Material Test**		Laboratory Test	EX	WP	WP	RR	Test Results
33	**Mock-Up**		Visual		EX	HP	RR	Inspection Request
34	**Delivery**		Visual		EX	HP	RR	Material Inspection Request
35	**Storage**		Visual		EX	HP	RR	Material Inspection Request
36	**Block Reinforcements**		Visual		EX	HP	RR	Material Submittal Form
37	**Execution**		Visual		EX	HP	RR	Inspection Request
38	**Mixing and Placing of Mortar and Grout**		Visual		EX	HP	RR	Inspection Request
39	**Forms and Shoring**		Visual		EX	HP	RR	Inspection Request
Metals (Structural Steel)								
40	**Welder Qualifications**		Visual		EX	HP	RR	Material Submittal Form
41	**Materials**		Visual		EX	HP	RR	Material Submittal Form
42	**Delivery**		Visual		EX	HP	RR	Material Inspection Request
43	**Storage**		Visual		EX	HP	RR	Material Inspection Request
44	**Fabrication**		Visual		EX	HP	RR	Inspection Request
45	**Execution**		Visual		EX	HP	RR	Inspection Request
46	**Erection**		Visual		EX	HP	RR	Inspection Request

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CIVIL and STRUCTURAL WORKS

ITEM	ACTIVITY	REFERENCE DOCUMENTS	INSPECTION & TEST DETAILS	SURVEILANCE POINTS				VERIFICATION RECORDS
				Testing Agency	M&AG	CONS.	CLIEN.	
Floor Screed								
47	**Materials**		Visual		EX	HP	RR	Material Submittal Form
48	**Reinforcements**		Visual		EX	HP	RR	Material Submittal Form
49	**Surface Preparation**		Visual		EX	HP	RR	Inspection Request
50	**Floor Top Finish**		Visual		EX	HP	RR	Inspection Request
Waterproofing								
51	**Materials**		Visual		EX	HP	RR	Material Submittal Form
52	**Delivery and Storage**		Visual		EX	HP	RR	Material Inspection Request
53	**Surface Preparation**		Visual		EX	HP	RR	Inspection Request
54	**Waterproofing Application / Installation**		Visual		EX	HP	RR	Inspection Request
55	**Flood Testing**		Visual		EX	HP	RR	Test Results

LEGEND: **EX**=Executes **WP**=Witness **HP**=Hold **RR**=Record Review

ARCHITECTURAL WORKS

ITEM	ACTIVITY	REFERENCE DOCUMENTS	INSPECTION & TEST DETAILS	SURVEILANCE POINTS				VERIFICATION RECORDS
				Testing Agency	M&AG	CONS.	CLEIN>	
Carpentry & Joinery								
1	**Materials**		Visual		EX	HP	RR	Material Submittal Form
2	**Fabrication**		Visual / Manual Measurement		EX	RR	RR	Approved Shop Drawing
3	**Delivery, Storage and Handling**		Visual		EX	HP	RR	Material Inspection Request
4	**Layout**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
5	**Installation**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
Aluminum Windows and Glazing								
6	**Materials**		Visual		EX	HP	RR	Material Submittal Form
7	**Delivery and Storage**		Visual		EX	HP	RR	Material Inspection Request
8	**Fabrication**		Visual / Manual Measurement		EX	HP	RR	Approved Shop Drawing
9	**Layout**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
10	**Installation (Aluminum Frame & Glass)**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
11	**Sealant Application**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
Expansion Joint								
12	**Materials**		Visual		EX	HP	RR	Material Submittal Form
13	**Delivery, Storage and Handling**		Visual		EX	HP	RR	Material Inspection Request
14	**Surface Preparation**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
15	**Sealant Application**		Visual / Manual Measurement		EX	HP	RR	Inspection Request

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ARCHITECTURAL WORKS

ITEM	ACTIVITY	REFERENCE DOCUMENTS	INSPECTION & TEST DETAILS	SURVEILANCE POINTS				VERIFICATION RECORDS
				Testing Agency	M&AG	CONS.	CLIEN.	
Aluminum Windows and Glazing								
16	**Materials**		Visual		EX	HP	RR	Material Submittal Form
17	**Delivery and Storage**		Visual		EX	HP	RR	Material Inspection Request
18	**Fabrication**		Visual / Manual Measurement		EX	HP	RR	Approved Shop Drawing
19	**Layout**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
20	**Installation (Aluminum Frame & Glass)**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
21	**Sealant Application**		Visual		EX	HP	RR	Inspection Request
22	**Testing**		Visual / Field Test		EX	HP	RR	Test Reports
Finishes A (Ceilings)								
23	**Materials**		Visual		EX	HP	RR	Material Submittal Form
24	**Delivery, Storage and Handling**		Visual		EX	HP	RR	Material Inspection Request
25	**Layout**		Visual / Manual Measurement		EX	HP	RR	Approved Shop Drawing
26	**Frames Installation**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
27	**Gypsum Board Installation**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
28	**Provision of Access Panels / Accessories**		Visual / Manual Measurement		EX	HP	RR	Inspection Request

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ARCHITECTURAL WORKS

ITEM	ACTIVITY	REFERENCE DOCUMENTS	INSPECTION & TEST DETAILS	SURVEILANCE POINTS				VERIFICATION RECORDS
				Testing Agency	M&AG	CONS.	CLIEN.	
Finishes B (Floor Tiles)								
29	**Materials**		Visual		EX	HP	RR	Material Submittal Form
30	**Delivery, Storage and Handling**		Visual		EX	HP	RR	Material Inspection Request
31	**Layout and Surface Preparation**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
32	**Tiles Installation**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
33	**Application of Grout**		Visual / Manual Measurement		EX	HP	RR	Inspection Request
Finishes C (Painting Works)								
34	**Materials**		Visual		EX	HP	RR	Material Submittal Form
35	**Delivery, Storage and Handling**		Visual		EX	HP	RR	Material Inspection Request
36	**Primer**		Visual		EX	HP	RR	Inspection Request
37	**Putty Application / Sanding**		Visual		EX	HP	RR	Inspection Request
38	**Painting (First to Final Coat)**		Visual		EX	HP	RR	Inspection Request

PROCESSES / ACTIVITIES	ROLES / RESPONSIBILITIES								
	QA/QC	Operation/Production Group			Support Group			CONS.	CLIENT
		Subcon	Engineers	Mgmt.	QS	Planning	Purchasing		
Schedules: Baseline Program		executes	executes	checks		prepares		approves	approves
Submittals	checks	prepares	prepares	checks				approves	approves
Requisitions		requests	requests	approves		coordinates	executes		
Inspection and Test Plan	checks	prepares	prepares	checks				approves	approves
Requests for Inspection/Testing	coordinates	prepares	prepares	notes				inpects	
Request for Material Inspection	coordinates	requests	requests	notes				inpects	
Material Sampling and Testing	coordinates	requests	requests	notes				witness	
Daily Site Report	prepares		prepares	notes				responds	
Non Conformance Notice	prepares	acknowledges	acknowledges	notes	computes			prepares	notes
NCN Correction	checks	corrects	corrects	checks				approves	approves
Project Valuations				checks	prepares			recommends	approves
Contract Variations				checks	computes			recommends	approves
Testing & Commissioning	coordinates	prepares	prepares	notes				inpects	notes
Handover/Warranties	coordinates	prepares	prepares	notes				approves	approves

REFERENCES

The following lists are referred and were used in the preparation of this document.

1. **Qatar Construction Specification (QCS 2014)**
2. **International Standard (ISO 9001:2015) Quality Management Systems Requirements**
3. **Project Specifications**
4. **Contract Documents**
5. **Approved IFC Drawings**

Abbreviation, Definition & Terms

1. Audit : Periodic onsite-verification (by a certification authority) to ascertain whether or not a documented quality system is being effectively implemented.

2. Compliance : Certification or confirmation that the doer of an action (such as the writer of an audit report), or the manufacturer or supplier of a product, meets the requirements of accepted practices, legislation, prescribed rules and regulations, specified standards, or the terms of a contract. See also conformance.

3. ISO : International Organization of Standardization.

4. ITP : Inspection & Test Plan. A document that provides instructions on how an inspection of a product is to take place. Inspection plans provide details about what characteristics must be tested in order to ensure the quality of the product, as well as specific metrics and measurements that must be achieved in order for the product to be judged in compliance with standards.

5. Defect or Nonconformance : any part of the Works not executed, provided or completed in accordance with the Contract. For the avoidance of doubt and without limiting the generality of the expression the term shall be taken to include any item of Plant, material, goods or work incorporated or used in the Works which does not or may not conform to the relevant quality standards or pass the tests prescribed in or to be inferred from the Contract.

6. PQP : Project Quality Plan. Detailed document that sets forth practices and sequence of activities aimed at translating an organization's quality policy into operational results, or conformance to a standard such as ISO 9000 within a specified timeframe.

7. Procedures : Graphical representation of the sequence of steps or tasks (workflow) constituting a process, from raw materials through to the finished product. It serves as a tool for examining the process in detail to identify areas of possible improvements. Also called flowchart

8. QA & QC : Quality Assurance & Quality Control and this may be written as QA/QC.

9. QA : Quality Assurance. Part of quality management focused on providing confidence that quality requirements will be fulfilled. QA involves a continuous evaluation of the adequacy and effectiveness of the overall Quality Management System in order to evaluate the deviation from established quality objectives.

10. QC : Quality Control. Part of quality management focused on fulfilling quality requirements. The QC involves specific control points during design, fabrication or construction stages to check the fulfilling of design criteria, acceptance criteria (tolerance, etc.), performance criteria or functional criteria.

11. QMS : Quality Management System. A set of interrelated or interacting processes, activities or tasks to direct Project resources to achieve established quality policy and objectives.

12. Quality Management : Coordinated activities to direct and control an organization with regards to quality.

13. RFI : Request for Information.

14. Testing : Quality control means by which the capability of a manufactured item to meet its specified requirements is determined and documented by subjecting the item to a set of operating conditions.

Appendix A

M&AG Forms & Inspection Checklists

09

HSE PLAN

باور كونتراكتينغ اند سيرفيسز
Power Contracting and Services

Health, Safety & Environmental Management Plan

DOCUMENT REVIEW STATUS:

☐ **STATUS 1**: WORK MAY PROCEED.

☐ **STATUS 2**: REVISE & RESUBMIT. WORK MAY PROCEED SUBJECT TO INCORPORATION OF COMMENTS INDICATED.

☐ **STATUS 3**: REVISE & RESUBMIT. WORK MAY NOT PROCEED.

☐ **STATUS 4**: REVIEW NOT REQUIRED. WORK MAY PROCEED.

Document No.: **PCS-IMS-PL-HSE-002**		**REV. 00**	
Prepared by	Mr.	OM	
Reviewed by			
Approved by			

REVISION HISTORY				
Item #	Revision #	Date	Pages affected	Details of Amendment

TABLE OF CONTENTS

1. PURPOSE:

The purpose of this HSE PLAN is to provide a framework for the Project Management Team to ensure that work health and safety (WHS) is managed and controlled in strict compliance with all applicable regulatory requirements as minimum standards and specific Project and Client requirements, to ensure the health and safety of all Project personnel and the surrounding community is not compromised.

Various WHS processes and procedures defined within this SMP are in summary form and the detailed management procedures and safe work instructions are available.

This Plan will be used as a guideline to ensure that all employees, sub-contractors, and visitors etc., engaged in the project working for Power Contracting & Services (PCS) are safeguarded, as far as reasonably practicable, from potential hazards in the performance of their duties and all practicable measures are taken to safeguard the environment.

PCS shall treat safety, health and loss prevention measures as the top priority in all its activities with respect to executing the works.

The purpose of this HSE plan is to;

- Create a safe working environment
- Create a culture where safe behavior is expected.

Safety rules help us to do these things. They are the results of many years of experience. Accidents cost to both the individuals and the organization. Therefore this HSE Plan for construction is designed for the benefit of all.

Employees violate safety rules; create hazards for themselves and for others. Therefore to safeguard everyone, violations of safety rules will subject to disciplinary actions.

Safety rules won't help us unless we know them and use them. Safety is the most important part of our job. Safety is the inherent part of each and every job activity.

2. BACKGROUND (Project Description):

Project Description

All activities shall be performed and completed in accordance with the rules, regulations, restrictions, obligations and codes of practices of the State of Qatar and to the project Specifications and Standards.

3. SCOPE:

Project Scope

3.1 SAFETY PHILOSOPHY:

PCS will place the health and safety of people and protection of the environment as a key focus of our business. Our philosophy is to be a leading construction company with a reputation for meeting and exceeding accepted legal, regulatory and ethical HSE standards. We will set and maintain our HSE management system to the highest levels possible in order to achieve Zero accident or Incident Target, to protect people, to eliminate occupational injuries and illness and to protect the environment whilst promoting sustainable global development during construction and execution of the project.

In order to implement the above **HSE Philosophy**, we execute plant operations with the **"Four Commitments" and "Four Actions"** below.

3.1.1 Commitments:

1. Comply with HSE laws, regulations and International Industry Standards and other internal & external requirements to which the organization subscribes.
2. Give top priority to the health and safety of all our employees, sub contractors and people affected by our operations;
3. Aim to continually review and improve HSE management system by eliminating environmental impact, prevention of environmental pollution, prevention of injury and ill health and reduction of health and safety risks; and
4. Strive to preserve the natural environment through sustainable development balancing the interests of the local population

3.1.2 Actions:

1. Establish the organization, rules and administration of a "Plan / Do / Check / Act" system for our HSE program and will identify and designate the various positions having HSE responsibilities;
2. Conduct education, training and inter-office awareness activities regarding our HSE Philosophy & Policy in order to deepen the understanding of the "Four Commitments" by all our management and employees; and
3. Make the employees aware of our "HSE Philosophy & Policy" through HSE system
4. Not a Single Violation shall be entertained, and disciplinary action shall be taken against the violator as per the procedure up to removal from the project Site.

The project will work towards achieving the highest levels of Safety, Health and working Environment and Environmental protection and economically feasible in relation to construction. Authority requirements as expressed through laws and regulations are to be fulfilled as a minimum.

Achievement of safety, working environment and environmental goals will be ensured through a systematic and timely treatment of tasks influencing these aspects during this

project execution stage. Safety, working environment and environmental aspects will be identified and given due consideration before any major decisions are taken.

Safety and working environment issues will be addressed through all phases of project execution, and the implementation of the HSE philosophies and specifications developed during the Project Specification phase.

4. REFERENCE:

Local Regulations and Requirements

No.	Document Description	Authority / Originator	Rev.
1	Qatar legal and regulatory requirements; Qatar Construction Specifications.	Laboratories & Standardization Affairs & Qatar General Organization for Standards and Metrology, 2014	2014
2	Law No. 14 of 2004 on the promulgation of Labor Law.	Ministry of Labor, State of Qatar	2004
3	Fire Safety Handbook – Building Worksite Safety	Civil Defense Department, Ministry of Interior, State of Qatar	2006

International Regulations, Requirements and Organisational Standard

No.	Document Description	Authority / Originator	Rev.
4	ISO 45001: 2018 Occupational Health and Safety Management System.	ISO	2018
5	ISO 14001:2015 Environment Management System	ISO	2015

5. DEFINITIONS AND ABBREVIATIONS

5.1 DEFINITIONS:

HSE MANAGEMENT SYSTEM	Management System used to develop and implement HSE policy and manage HSE hazards.
HSE POLICY	Overall intention and direction of the organization

	related to HSE performance. HSE performance is measurable results of management of HSE hazards.
HAZARDS	Hazard is a vulnerable situation. HSE Hazard is a vulnerable situation with respect to health and safety in the workplace. This may be relating to activities, products, services or infrastructure. This includes any process or part of the process that are within the control of our organization.
SAFETY	The term safety is to be understood as encompassing: Safety and health of human life including emergency preparedness and contingency planning Safety of material assets and investments.
ENVIRONMENTAL PROTECTION	This term is to be understood to mean the control of emissions to atmosphere, discharges to water, disposal of solid waste materials outside the site boundary and impacts on local communities such as noise, traffic, air quality etc.
INDIVIDUAL RISK PER YEAR (IRPY)	This is the Individual Risk per Year, i.e. the probability of a fatality per annum for the most exposed individual in the work group under consideration.
ACCIDENTAL EVENTS	This term relates to an uncontrolled event or condition, which may be of consequence to people, to the environment and/or to assets and financial interests.
RISK	Risk is a collective term relating to the probability of and the consequences of an accidental event. Risk indicates the possibility that an accidental event may occur in the facilities. The term risk does not, however, indicate an assertion that an accidental event will occur.
RISK ANALYSIS	The term risk analysis is used in a broad sense. It comprises a number of different methods of analysis, both quantitative and qualitative, of technical, operational, human and/or organizational nature. The methods for risk analysis must be selected to answer the needs of the problems to be analyzed. Several methods may be applied in parallel or in combination. Thus, possible interaction between technical, human and organizational aspects may be revealed in the assessment of risk.

NON-CONFORMITY	Non-fulfillment of a requirement or not meeting specified norms
CORRECTIVE ACTION	Action taken to prevent the recurrence of an existing non-conformity.
PREVENTIVE ACTION	Action taken to prevent the occurrence of a non-conformity that has not yet occurred.
ACCEPTANCE CRITERIA	This term includes criteria used to determine whether an accidental event is associated with an acceptable risk. Acceptance criteria may be expressed quantitatively, and/or qualitatively, depending, inter alia, on the type of risk to which they refer, and the method employed to analyze risk.
AS LOW AS REASONABLY PRACTICABLE (ALARP)	Once the risks have been brought down to a level, which satisfies the acceptance criteria, measures which further reduce the risk to levels As Low As Reasonably Practicable will be implemented.
FIRST AID CASES	A First Aid accident is the one, where the injured person is disabled for less than 24 hours
LOST TIME INJURY CASES	In this case the injured person is disabled for 24 hour or more and is not able to perform his duty.
LOST MAN DAYS	Man, days lost means no. of days an injured remained absent due to injury at work location. (The day on which the injury occurred and the day in which the injured person returned to work, are not to be included as a man days lost), but all intervening calendar days (including Friday, days off or days of plant shut down) are to be included. If after resumption of work, the person injured is again disabled for any period arising out of injury which caused his earlier disablement, the period of such subsequent disablement is also to be included in the Man days lost.

4.2 LIST OF ABBREVIATIONS

Sr. No.	LIST OF ABBREVIATIONS

1	PCS	Power Contracting & Services
2	CEO	Chief Executive Officer
3	GM	General Manager
4	PCM	Project & Contract Manager
5	HR	Human Resource
6	HOD	Head of the Departments
8	HSE	Health Safety Environment
9	HSEM	Health Safety Environment Manager
10	HSEO	HSE Officer
11	ALARP	As Low As Reasonably Practicable
12	Asstt.	Assistant
13	CAR	Corrective Action Request
14	EMP	Environmental Management Plan
15	COO	Chief Operating Officer
16	COSHH	Control of Substances Hazardous to Health
17	DCP	Dry Chemical Powder
18	IIT	Incident Investigation Team
19	INR	Incident Notification Report
20	JHA	Job Hazard Analysis
21	JSA	Job Safety Analysis
22	KPI	Key Performance Indicator
23	LTI	Lost Time Injury
24	MOE	Ministry of Environment
25	MSDS	Material Safety Data sheet
26	MTI	Medical Treatment Injury
27	NFPA	National Fire Protection Association
28	OSHA	Occupational Safety & Health Administration

29	OSHAS	Occupational Health & Safety Assessment series
30	RTA	Road Traffic Accident
31	PM	PCM
32	PPE	Personal Protective Equipment
33	PTW	Permit To Work
34	QCS	Qatar Construction Specifications
35	RCD	Residual Current Devices
36	SCBA	Self-Contained Breathing Apparatus
37	SIL	Safety Integrity Level
38	SIMOPS	Simultaneous operations
39	SMP	Safety Management Plan
40	SMT	Safety Management Team
41	SOQ	State of Qatar
42	SR	Safety representative
43	SWI	Safe Working Instruction
44	SWL	Safe Working Load
45	SWMS	Safe Working Method Statement
46	WHS	Work Health and Safety
47	WHO	World Health Organization
48	WLL	Working Load Limit
49	RA	Risk Assessment
50	WP	Work Procedures
51	HAZCOM	Hazardous Plan Communication

6. HSE MANAGEMENT SYSTEM

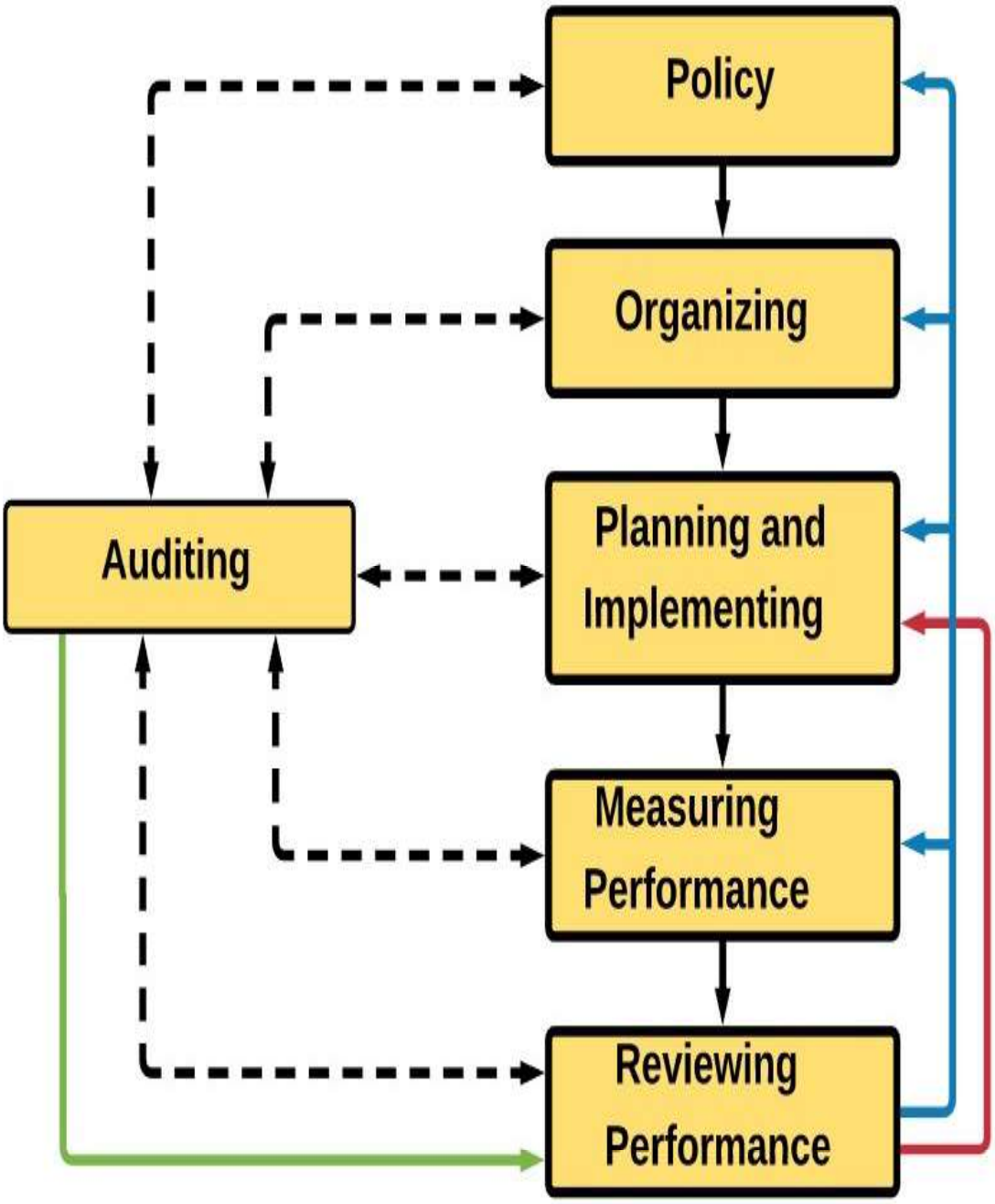
6.1 PROCEDURE:

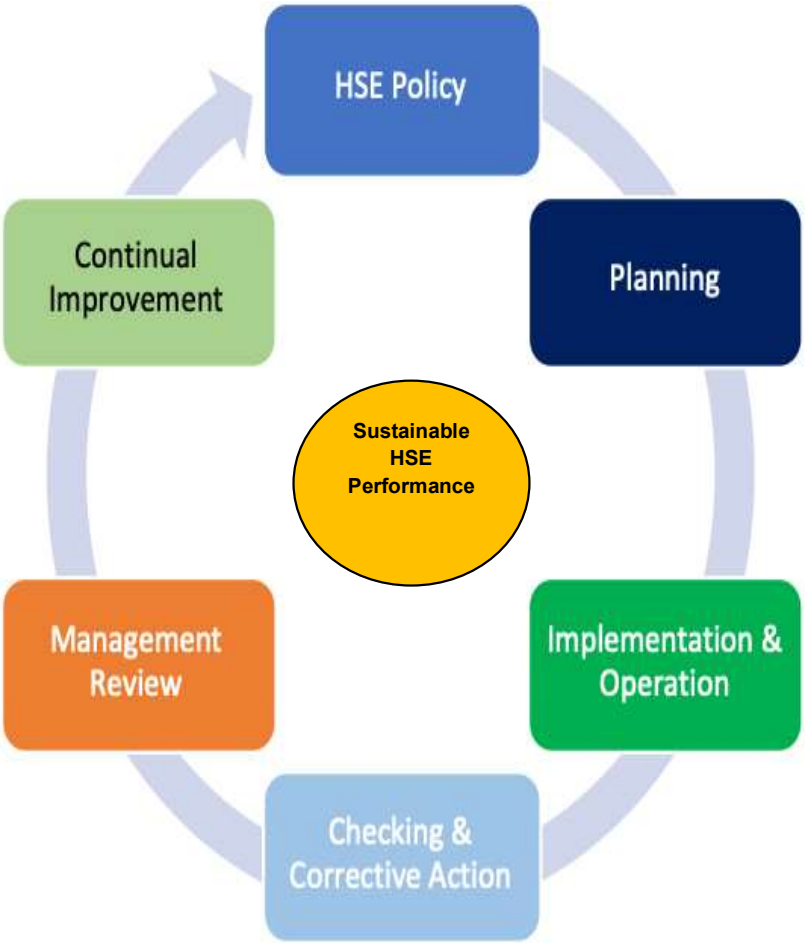
PCS shall establish and maintain this documented HSE Management System, which is in agreement with the HSE policy as well as industries best practice. The intention of the HSE Management System is to serve as a requirement for the implementation and maintenance of HSE management practices at project. The HSE Management System is an organizing framework that should be continually monitored and periodically reviewed to provide effective direction for HSE activities to ensure sustainability in view of changing internal and external factors.

PCS, in line with best industry standards, practices and intent of recognized legislation and regulations, has developed its HSE Management System and incorporated the following essential elements to cover all the activities within Project but not limited to.

1. HSE Policy Statement
2. Management Commitment
3. Strategic HSE Objectives
4. Roles, Responsibilities and accountabilities
5. HSE Practices and Procedures
6. Hazard Identification and Risk Management
7. Occupational Health Hazards and Industrial Hygiene
8. Incident Management
9. Emergency Response and Control
10. HSE Professional Training
11. Communication and Motivation
12. Subcontractors Management and Control
13. HSE Audits and Management Review

6.2 HSE management system summary chart




HSE Policy
Planning
Implementation & Operation
Checking & Corrective Action
Management Review
Continual Improvement
Sustainable HSE Performance

6.3 HSE Policy Statement

Occupational Health Safety & Environment Policy Statement

PCS Management has a set of policies that are relevant to community health, safety, and security, as outlined in the following sections. In order to achieve this, a Community Health and Safety Management System will be implemented that complies with all current and local health and safety legislation and in line with Qatar Construction Specification 2014 (QCS 2014)

Health Policy

- Identify and evaluate health risks related to its operations that potentially affect its employees, contractors or the public.
- Implement programs and appropriate protective measures to control such risks, including appropriate monitoring of its potentially affected employees.
- Determine at the time of employment and thereafter, as appropriate, the medical fitness of employees to do their work without undue risk to themselves or others.
- Provide or arrange for medical services necessary for the treatment of employee illness or injuries and for the handling of medical emergencies.
- Comply with all applicable local laws and regulations and apply responsible standards where laws and regulations do not exist.
- Undertake appropriate reviews and evaluations of its operations to measure progress and to ensure compliance with this health policy.
- Provide voluntary health promotion programs designed to enhance employees' wellbeing, productivity, and personal safety. These programs may include periodic health evaluations, immunizations, and health risk factor reduction and they are tailored to local business circumstances. These programs should supplement, but not interfere with, the responsibility of employees for their own health care or their relationships with their personal physicians.

Safety Policy:

The PCS's is committed to continuous effort to identify and eliminate or manage safety risks associated with its activities and, in general, to continuous improvement of its performance in health, safety, and environment. This commitment is contained in PCS's Safety Policy which is to:

- Design and maintain facilities, establish management systems, provide training, and conduct operations in a manner that safeguards people and property.
- Respond quickly, effectively, and with care to emergencies or accidents resulting from its operations, cooperating with industry organizations and authorized government agencies.

- Comply with all applicable laws and regulations and apply responsible standards where laws and regulations do not exist.
- Stress to all employees, contractors, and others working in its behalf their responsibility and accountability for safety performance on the job and encourage safe behavior off the job.
- Undertake appropriate reviews and evaluations of its operations to measure progress and to ensure compliance with this safety policy.

Environment Policy:

PCS Management is committed to:

- Conduct operations in an environmentally responsible manner to minimize environmental impact.
- Reduce waste, conserve energy and natural resources, and prevent pollution through sustainable practices.
- Comply with all applicable environmental laws and regulations.
- Implement environmental management programs and regularly monitor and evaluate environmental performance.
- Promote environmental awareness among employees, contractors, and stakeholders to foster a culture of sustainability.

We are also committed to:·

- Promote a work culture in which all have the belief and commitment to achieve the company's goal.
- Support the employees to develop their personal skills, competences and help them reach their full potential, through relative training programs.
- Setting up verifiable QHSE objectives and goals for the entire organization.
- Adhere to the Workers' Welfare Standard as per the Supreme Committee for Delivery & Legacy.
- PCS's Management Team ensures continual improvement of the QHSE Management System through annual review of the policy, objectives, targets, internal auditing and regular management review meetings.

Date: 21st November 2023. Signed: _____

Name:

6.4 Distribution, Availability and Review:

PCS Management ensures that all HSE policy signed by Top management will be displayed at project site offices and Camps to communicate management commitment towards HSE and wellbeing of PCS employees and to remind all employees to achieve aims and objectives specified in the HSE Policies. All new employees will be informed about PCS HSE Policies statements and objectives during the Induction session. The policy shall be made available to clients and interested parties on demand. HSE policy shall be reviewed by the top management during the Management Review meeting.

6.5 Management Commitment:

PCS has willing accepted a philosophy for health, safety and environmental excellence. The primary driving force behind this commitment to health and safety is simple: employees are the most significant asset and management values their safety, health, and welfare. Also, top management believes that all injuries are preventable. Safety culture empowers employees at all levels to accept ownership for safety and take whatever actions are necessary to eliminate injury. PCS is committed to world-class performance in health, safety, security and environment and also understands that world-class performance is a critical element in overall business success.

PCS is committed to the prevention of personal injuries, occupational illnesses, and damage to equipment and property in all of its operations; to the protection of the general public whenever it comes in contact with the projects work; and to the prevention of pollution and environmental degradation.

PCS management, field supervisors, and employees plan safety into each work task in order to prevent occupational injuries and illnesses. The ultimate success of PCS's safety program depends on the full cooperation and participation of each employee.

Management will try to exceed expectation on safety standards implementation. PCS management extends its full commitment to health and safety excellence.

6.6 OBJECTIVES AND TARGETS

6.6.1 HSE STRATEGIC OBJECTIVES:

The Objectives and target shall be reliable with the PCS HSE Policy towards continued improvement in performance. The Objectives shall be measurable, realistic, include the review.

- To complete the Project without LTI;
- To complete the Project without any road traffic accident;
- To complete the project without harming the health of employees;
- To complete the project without damage to the environment;
- To achieve 100% HSE awareness training for all personnel;
- To review Management systems Periodically;
- To Monitor record and communicate HSE Policy requirements, HSE performance, Programs and lessons learnt to employees, subcontractors and client;
- To comply with all requirements as stipulated in the HSE Plan;
- Make a personal commitment to HSE as a value;
- The Management's commitment to have zero incidents and world class safety performance will reflect in the functioning of the line management.
- Protect people (employees and others), property and the environment from potential hazards;
- Provide uniform policy of safety management consistent with the requirements of PCS on safety, health and environment.
- Establish and. maintain an effective safety and health plan involving all levels of the organization including managers, supervisors, and employees.
- Cooperate and assist the client and subcontractors involved in the work area to maintain a safe and healthy workplace.

- HSE matters requiring attention will be brought to focus of the management team and will be taken for corrective action.
- PCS shall provide controls for hazard and effect management will be implemented and need develop a comprehensive standards and procedures as applicable to the project.
- PCM will ensure that the objectives are implemented and reviewed at intervals.
- The line mangers will communicate any problems requiring PCM's attention.

6.6.2 KEY PERFORMANCE INDICATORS (KPI):

To provide a proactive approach in meeting the objectives and targets shown above, a range of positive Key Performance Indicators (KPIs) will be monitored.

During the establishment of project the KPIs will focus on these areas:

Project Inductions (target 100% of project staff)

With weekly site Management walk through.

- Progress on Action Tracking (i.e. percentage of actions resolved)
- HSE Self Assessment Performance by Internal HSE inspections
- Zero non-conformities and complaints from enforcement authorities.

During the initial construction phase of the project, the KPIs will focus on these areas:

1. Perform and document regular HSE Inspections
2. Actively promote relevant HSE issues by refreshing the HSE awareness campaigns/promotions on a monthly basis.
3. Continuous monitoring of HSE management Systems through Inspections and Audits.
4. All incidents and accidents will be reported as per procedure.
5. Routine updates of risk register.

The HSE Co-ordinator shall monitor the fulfillment of objectives on quarterly basis and submit a report to the QHSE Manager for review.

6.6.3 TARGETS

The targets will be fixed and reviewed periodically on the basis of zero Incident. Incentives will be offered to those following the norms and setting.

Targets	
Near Misses	**All Near Misses will be reported and investigated**.
First Aid injuries	**0**
Lost Time Injuries	**0**
Medical Treatment injuries	**0**
Fatality	**0**
RTA Frequency rate	**0**
LTI Frequency rate	**0**

7. ORGANISATION, RESOURCES AND COMPETENCE

Organisation Chart (Refer Annexure – 4)

Responsibility for Health & Safety and Environmental ultimately rests with the highest level of management. Duties and responsibilities are however delegated to all levels of management. PCS has established a robust management structure and has allocated responsibilities for Health and Safety, Environmental activities to senior management positions so that there is effective management of risks on this contract. Specific responsibilities are outlined in the Job description for each person employed.

In general, all employees have the following responsibilities:

To take reasonable care of own safety and the safety of any other persons who may be affected by what they do or fail to do at work.

Not to interfere with or misuse, intentionally or recklessly, anything provided in the interests of safety and environmental protection.

To report hazardous shortcomings in health & safety and environmental arrangements.

Keep up to date with any statutory requirements including training needed for them to carry out their work.

Report any accident or dangerous occurrence during work activities.

Attend and complete the PCS Induction training

Actively take part and contribute to all HSE programs and training.

Use the health, safety & environmental resources and equipment as provided.

To Stop Work when a perceived unsafe condition or behaviour may result in an unwanted event.

Report defects in their equipment to their supervisor.

Preventing pollution (pollutants & emissions) and reducing the consumption of resources (energy, fuel, water, packaging & materials) wherever practical and appropriate.

To report hazardous shortcomings in environmental arrangements.

7.1 CONSULTATION & PARTICIPATION OF THE WORKFORCE

All PCS personnel shall be engaged in the HSE Management Plan through consultation and participation to include:

Involvement in hazard identification, risk assessment and determination of controls for all services provided under this contract

Participation in incident investigation where appropriate

Development and review of health and safety policies and procedures and safety objectives.

Consultation where changes may affect employee health and safety

7.2 SAFETY LEADERSHIP & COMMITMENT

PCS's Safety performance is driven by the leadership of our organization. PCS Management set the standards of safe behavior within PCS. PCS Management motivates its employees to strive for minimal risk exposure. PCS provides positive leadership and responsible for implementing our IMS, including the development and deployment of our corporate policies, their subsequent objectives and targets, and product or project-specific plans. Top management provides accountability and governance to all activities related to the lifecycle processes including defining the strategic direction, responsibility, authority, and communication to assure the safe and effective performance.

PCS ensures that all necessary resources, responsibilities and accountabilities are allocated for the continual improvement of the HSE Representatives at organizational levels, functions and work areas can be requested to provide support to the management of the HSE. PCS governance structure provides necessary support for creating and establishing processes that are important for achieving our hse objectives, targets and policies by using the PDCA approach.

Governance activities include the systematic verification of HSE effectiveness by undertaking internal audits and analyzing performance data, reviewing trends and KPIs. Regular reviews and reporting ensure that our HSE is effective and has the ability to react emerging issues. Top Management is committed to implementing and developing the HSE and this commitment is defined by our policies and objectives

PCS Management exhibit a variety of behaviors that, often unintentionally, influence coworkers to improve their safety standards, such as:

- Being an example, by knowing and following the rules.
- Avoiding complacency for the dangers of the job.
- Reporting safety hazards, violations, and incidents.
- Maintaining open communication with employees about safety concerns.
- Implementing change to improve safety and working conditions.
- Showing employees small tokens of appreciation for a safe job well done.
- Being involved in safety initiatives and committees.

7.3 PROJECT key personnel HSE roles and RESPONSIBILITIES

7.3.1 MANAGING DIRECTOR

The MD is responsible for the overall arrangements and for ensuring that the PCS's operations are executed at all times in such a manner as to ensure, so far as is reasonably practicable, the health, safety and welfare of all employees and others who may be affected by its operations.

In particular the MD will:

- Ensure there is an effective PCS policy for health and safety and that all employees,
- Contractors and temporary workers are made aware of their individual responsibility.
- To understand and ensure, through the appointment of competent persons, that the PCS's responsibilities as employers under the Ministry of Labour Law and Statutory Instruments are met.
- To appoint a Manager responsible for safety.
- To ensure that all Directors and Managers understand and fulfil their responsibilities with regard to health and safety.
- Arrange for funds and facilities to meet the requirements of PCS policy and legislation.
- Make provision for adequate and appropriate training to be given to all employees.

- To ensure that notification and reporting procedures to the relevant statutory authorities are carried out.
- Set a personal example on all matters of health and safety.

7.3.2 OPERATION DIRECTOR

OD is responsible for his personal safety and that of all personnel under his or her authority, including others who may be affected by the PCS's activities.

In particular, he will

- Understand and implement the PCS HSE policy.
- To ensure that all Managers understand and fulfil their responsibilities with regard to health and safety.
- Appreciate the responsibilities of personnel under his authority and ensure that each employee knows his/her responsibility and are equipped to play their part.
- Set a personal example with regard to health and safety matters.

7.3.3 HSE RESPONSIBILITIES OF SR. PCM:

The Sr. PCM shall be responsible for the following:

- Ensure that Section/ Dept. Heads and all line Managers apply and implement the PCS's HSE Policy within their respective areas of control.
- Ensure that all personnel adhere to the requirement of the PCS Occupational Health, Safety and Environmental Policy, and that all procedures, rules and regulations are followed.
- Review the HSE program set up by the QHSE Manager.
- Monitor Compliance to the HSE plan policy in respect of PCM, Plant, Workshop and Stores staff etc.
- Promote a firm awareness that Safe Working and Accident prevention are integral part of the responsibilities of efficient management.
- Produce budgetary needs for compliance with the Rules and Regulations of the Project's Occupational Health, Safety and Environmental Policy, and Specific HSE related specifications.
- Set a personal example all the times.
- Promote safety awareness with HSE incentive schemes and motivate the employees by presenting them.
- Participate in Internal Management HSE Audits.

- Ensure that the procedure of all plants and equipment maintenance is followed as per manufacturer's recommendations.
- Make provision that all new employees are given adequate Induction/HSE Training.
- Lead the Incident Investigation and Reporting Team, when a Fatal, disabling or High Potential Incident has occurred.
- Attendance at HAZOPs and HAZID and other relevant reviews as required.
- Ensure the closeouts of non-conformities
- Ensure to review HSE objectives from all section heads
- Will participate and carryout HSE walk through and management external and internal audits.

7.3.2 HSE RESPONSIBILITIES of PCM:

The PCM shall have full line responsibility for all Health, Safety and Environmental matters. His duties include, but are not limited to:

- He will be responsible to all responsibilities of PCM in his absence.
- Monitor Compliance by ensuring that all personnel adhere to the requirements of the HSE Plan procedure and to the HSE specifications.
- Ensure that all employees / subcontractor/ vendors are provided with the required Personal Safety Equipments to ensure of perform the safe work.
- Ascertain and support the HSE training of all personnel working under project.
- Review accident reports, statistics and Investigation reports and ensure that the recommendations are carried out and closed in timely manner.
- Promote a firm awareness that Safe Working and Accident Prevention are integral parts of an efficient management.
- Set a personal example all the times.
- Discuss with the PCM about HSE requirements and interact with the QHSE Manager / Officer on improving the HSE performance on a continuous basis at all levels including subcontractors / vendors.
- Participates in external and internal HSE Audits as per HSE schedule.
- Ensure to attend scheduled monthly HSE meetings.

7.3.3 RESPONSIBILITIES OF ENGINEER/SUPERVISORS / FOREMEN

The Engineer /Supervisor /Foremen are responsible for providing a safe work environment for their workforce. The primary safety inspections will be their

responsibility. It will be their duty to continuously monitor working conditions. Their jobs include adopting HSE measures in their areas, make intelligent decisions, and ensure corrective actions, diplomacy in handling personnel and situations, have a clear understanding of operations, and full knowledge of the rules and regulations as per HSE Plan.

Their responsibilities are but not limited to:

- Make the workforce aware of the hazards of their activities and their control measures to prevent incidents.
- To carryout Safety Analysis of workplace and migration measures
- To ensure that all employees are provided with necessary personnel protective Equipments.
- To implement and promote awareness of safe working practices on job sites.
- Ensure work permit is obtained for all jobs to meet PTW requirements at workplace. NO permit No work.
- Carryout daily toolbox talks
- To ensure that only trained and competent Qatar license holders shall operate vehicles, plants.
- To ensure that all lifting Equipments, loose slings & tackles or the proper tools with valid test certificates and colour codes.
- To ensure that all employees are given adequate information, instructions and have the supervision to enable them to safely take care of their duties and activities.
- Take part in the investigation of incidents and the dissemination of learning points to their work force.
- Take part in the Emergency Response Exercises.
- Ensure proper hand and portable tools are safe for work and operated only by experience and competent personnel. As well as to ensure maintained, and colour coded of power and hand tools.
- Ensure good housekeeping at work site.
- Take precautions from occupational health hazards such as heat, dust, noise, vibration as per the procedure.
- Provide adequate rest shelters, cool drinking water etc
- Comply with the permit to work system requirements.
- Explain to the unskilled/skilled workers about their responsibilities as in the HSE Plan and lead them

- Stop the Job, if it is unsafe.
- Will ensure full time supervision at work site.

7.3.4 RESPONSIBILITIES OF SITE HSSE CO-ORDINATOR

The site HSSE Co-ordinator will report to the Corporate QHSE Manager and PCM/ PCM. His responsibilities will include the following:

- He shall ensure that a safety management structure exists to co-ordinate the Health, Safety, Security and Environment Plans, and Programs as well as to ensure that this structure is provided with the necessary resources to carry out the functions such as training, external technical assistance, and system resources to include sufficient time and finances to perform their duties.
- He will ensure continued development and implementation procedures and will be reviewing procedures yearly and when necessary i.e. after any major accident.
- Lead the entire team maintain and promote HSSE awareness and develop a safe culture and work in environment through innovative ideas.
- Will ensure the continued development and implementation of project HSSE plans, HSSE Policies, Procedures, HSSE Training Programs and Emergency Response Procedures
- Render assistance to PCM in implementing the health, safety and Environmental programs based on project requirement and QCS 2014 guidelines.
- Will lead HSE weekly and monthly Meetings.
- Will lead internal pre-start-up HSSE Audits.
- Develop new safety measures in conjunction with the HSSE Plans.
- Prepare and submit reports on HSSE issues to PCM, HSSE Co-ordinator and QHSE Manager showing HSE performance statistics.
- Render necessary advice to Engineers/Supervisors/Foremen during site visits.
- Review records of toolbox talks conducted by the Site Foreman and supervisors.
- Carry out HSSE Audits at site with reference to all HSE issues such as environmental protection, hygiene/sanitation, fire prevention/protection measures, emergency exercises and recommend measures.
- Take part/attend in clients monthly / weekly meetings
- Will lead and participate in all incident investigation and Report
- Place special emphasis on ‘near misses’ and encourage reports about all the near misses. Investigate all near misses and accidents & take preventive measures.
- Liaise with Regulatory agencies Safety Departments.

- Will visit the site areas during ongoing activities on regular basis.
- Ensure all subcontractors will understand HSE Plan, HSE programs, HSE requirements and follow-ups.
- Ensuring that HSE and Security plan is consistent with project requirements and are implemented.
- Ensure all medical support requirements are identified, and adequate facilities and resources are allocated by the project team.
- Will ensure that all hazards associated with the construction are identified and assessed, and appropriate controls are put in place to reduce to ALARP.
- Participates in the various HSE studies and risk assessments (i.e. HAZOP, HAZID) to support the SIMOPS activities and dossiers as required.
- Contributes to SIMOPS activities to ensure strict adherence to all requirements expressed in the project HSE standards and recommendations.
- Ensure to develop inspection program or schedule for HSE supervisors.
- Will ensure for implementation of PTW procedure for the project.
- Will ensure camp safety arrangements and requirements are in line with project requirements and QCS 2014.
- Support the development and realization of a Zero Incident culture in a way that serious injuries are prevented and best in the HSE performance is achieved.
- Participate in risk assessment meetings
- Gather and compile HSE data.
- Identify the areas of environmental protection requirements and take measures.
- Conduct the Emergency exercises, fire drills and communicate learning points to the workforce and supervisors.
- Provide topics for Toolbox Talks and monitor them for improvements.
- Ensure that the Personal Protective Equipments are adequate, maintained and they serve for the specific purpose.
- Advise on the inspection findings on Vehicles/Equipments/PPE/Camp facility.
- Regularly check and monitor road safety and traffic diversions.
- Check, record and advice on Fire Fighting Equipments, Extinguishers and adequacy of Fire Wardens, presence of combustible material and First Aiders.
- Carry out Health and hygiene inspections in camp with nurse and camp boss in the camp.
- Conduct regular road safety meetings with drivers and operators.

- Ensure implementation of internal traffic plan to control congestion and update and distribute to all affected parties within fenced area and Interface with all other subcontractors to ensure a safe plan is in effect with required coordination and input from all.
- Ensure the competence of subcontractor, vendors and workforce with daily safety inspections and proper reporting of accident and incidents.
- Will ensure to address health and hygiene inspections at workplace.
- Reporting to the management of Client of all environmental incidents, involving the release of hazardous substances into the environment.

7.3.5 RESPONSIBILITIES OF SITE HSE OFFICERS/HSE SUPERVISORS

- Monitor the working environment and ensure work place is safe for work.
- Identify unsafe conditions and get it rectified immediately.
- Identify unsafe acts and correct it.
- Monitor all employees use required PPE's correctly.
- Check PPE's are in good condition.
- Inspect scaffolds, ladders, fire extinguishers, hand tools, power tools, electrical cables, lifting gears, plant machinery and ensure it is safe for use.
- Notify Accidents, Incidents and near miss.
- Participate in investigation of incidents/accidents.
- Ensure corrective /preventive measures are applied.
- Conduct daily safety inspections.
- Ensure correct and valid work permits are available on site.
- Check third party certificates of plant machineries and operators, riggers, scaffolders, scaffold supervisors and inspectors.
- STOP activity it is unsafe.
- Ensure good housekeeping is maintained on site.
- Ensure toilets and urinals are clean and septic tank is emptied out time to time to prevent overflow.
- Ensure sufficient drinking water is available on site. (Cool water in summer).

7.3.6 HSE RESPONSIBILITIES OF PLANT / TRANSPORT INCHARGE

The Plant & Equipment in charge shall be conversant with relevant Rules and Regulations of the state of Qatar, client Policies and procedures. His responsibilities will include:

- Ensure all heavy equipment used for project are certified by approved third-party and re-inspected by 3rd party after major maintenance.
- Ensure that employees are given adequate information, Instruction, Supervision and Training to enable their duties and activities to be carried out safely.
- Ensure that suitable Personal Protective Equipments are provided and used.
- Ensure that Vehicles, Plants and Equipments are adequately maintained.
- Ensure that Cranes, Lifting Machines and Lifting gears have valid test Certificates and are retested at appropriate intervals or whenever major repairs or modifications are carried out.
- Ensure that the equipment displays “Safe Working Load” and is thoroughly inspected (by a competent third party) every 6 months. Records of the said inspections are maintained.
- Ensure all “Lifting Equipments” have valid test certificates, means of identification and clear display of Safe Working Load. The “Lifting Tackle” has to be maintained in good condition and must undergo thorough inspection by approved third party yearly with corresponding records kept up & the certified lifting equipment are color coded.
- Ensure that only trained, competent and Qatari licensed staff operates vehicles, plant and machines.

7.3.7 HSE RESPONSIBILITIES OF OPERATORS AND DRIVERS

Only competent and trained staff and those in possession of the Qatari appropriate License will be permitted to drive vehicles and operate the plants. (e.g., Light Vehicles, H/D Vehicles, Cranes, Forklift, Man lift etc.).

All the drivers and operators shall observe the Qatar rules and regulations and shall be trained and counselled in the following aspects:

- Check their vehicles and/or plants daily.
- Do not allow anyone to drive and/or operate their allocated vehicle or plant.
- Headlights must be switched on while driving on dusty roads or during sandstorm.
- Follow the speed limit (15km/hr) while driving in the project areas.
- Ensure that they wear their personal protective Equipments at site.

- Ascertain and control that drivers and all passengers wear seat belts before starting the vehicle.
- Avoid dangerous areas/circumstances and ensure that no one is below or behind the vehicle before starting it.
- Not to exceed the speed limit and drive at a safe speed as per the road and site conditions.
- All Operators/ drivers should ensure 100% visibility from their cabin. No Towels/ screens to be kept in the vehicle window, which could affect peripheral vision of the operator.
- Ensure to aware about safe transportation of hazardous material.

7.3.8 HSE RESPONSIBILITIES OF WORKERS / TRADESMEN

General responsibilities for the workers will be as follows:

- Observe requirements of the HSE plan and follow the instructions given by the Foreman Supervisor
- Follow all safety signs.
- Use correct tools and Equipments and report any damage or fault to the respective foreman.
- Use correct Personal Protective Equipments as directed and report any deficiencies to the Foreman.
- Ensure that their work activities do not endanger themselves or others.
- Help new employees understand the hazards in their jobs and maintain discipline (No 'Horse Play').
- Ensure they and the other passengers wear seat belts while travelling.
- Report all incidents/near misses to their Foreman / Supervisor.
- Co-operate in maintaining and improving a safe and healthy working Environment.
- Attend weekly HSE gate meetings and participate in the Emergency Response exercises as per schedule.
- Actively participate in daily Toolbox Talks.
- STOP work without fear of blame or job loss, if the conditions are unsafe.
- Attend required safety training.

7.3.9 FIRST AIDERS

- Rendering first aid treatment to any person in needs;
- Accompany the casualty to hospital for further medical treatment, where necessary;
- Keeping records of first aid treatment provided;
- To check and maintain adequate first aid facilities; and
- Keeping up-to-date knowledge in first aid.
- Check contents of first aid boxes and maintain it up to date.

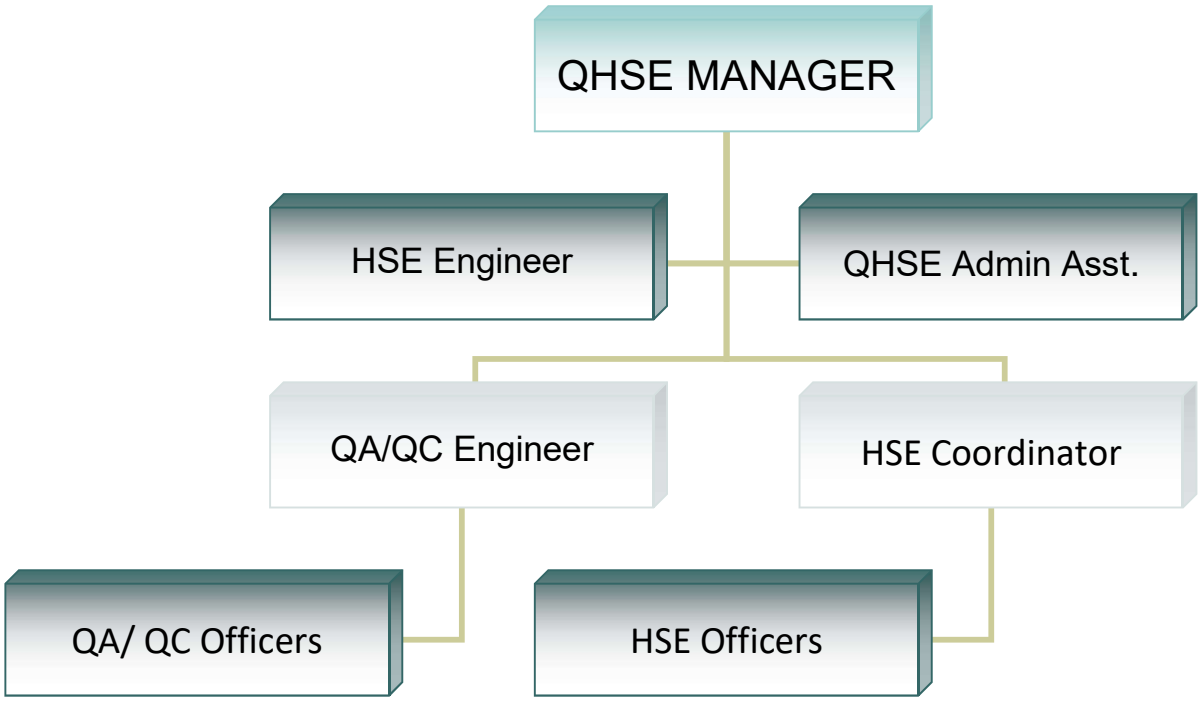
7.3.10 SUBCONTRACTORS RESPONSIBILITIES

- All subcontractors working under PCS are responsible for the implementation of HSE plan and procedures for its undertakings as part of the project.
- Each subcontractor will have staff and resources responsible for adherence to HSE plan and procedures and will work with contractor, to this end, on a day today basis.
- All subcontractors will designate HSE professional to co-ordinate the enforcement of the HSE program and to support their line management's implementation of the HSE program.
- Sub-contractors must provide their employees with information, instruction and training on anything which may affect health and safety of worksite personnel or public based on HSE plan.
- Prior to Contractor commencing work at the Work site, subcontractors shall provide, for approval, a detailed method statement along with Job Safety Analysis (JSA). This analysis shall identify the known hazards, and corrective measures and controls that will be implemented.
- A log of HSE activities, near misses, accident investigations, employee instruction, training, "toolbox" meetings, etc., shall be maintained on work site and copies shall be promptly provided to PCS on request.
- Sub-contractor should ensure to report all accident and incident or near miss to PCS accident and incident reporting and investigation procedure.
- Work Assignments - All work assignments must include specific attention to HSE concerns and required in order to prevent accidents. (Task Instruction / Job Safety Analysis)
- Subcontractors shall provide for all necessary personal protective equipment required by their employees in the execution of their contract work. Subcontractor shall also fully comply with the requirements of the "Material Safety Data Sheets"

including the use and wearing of additional protective equipment when working on or with chemicals.

- Subcontractor shall provide Signs, Signals, Barricades and Lights at all times where a hazard exits.
- Subcontractor shall ensure to follow CEMP.

7.3.11 HSE ORGANIZATION CHART



8. PROMOTING POSITIVE HEALTH AND SAFETY CULTURE

8.1 HSE Department workflow

HSE Dept. is headed by QHSE Manager who reports to the Top Management. He is the focal point for all HSE related issues. He controls all project sites with the help of project safety officers.

- Prepare and monitor HSE departmental action plans
- Conduct planned inspections and audits with line management
- Organizing HSE trainings for all project personnel
- Investigating all accidents, incidents and near misses
- Implementing safe system of work i.e. Permit to work system
- Prepare and ensure implementation of Health safety and environmental procedures
- Prepare emergency plans, conduct emergency drills and exercises
- Conducting trainings for fire fighting teams, first aiders etc.
- Ensure provision and use of PPE

- Promoting positive health and safety culture by formalization of HSE rules, promotional, subcontractor assessments and awareness programs etc.

8.2 SUB-CONTRACTOR MANAGEMENT

PCS shall ensure that the Sub-contractors are made aware of project specific HSE requirements specifically with respect to road transportation safety, vehicle/equipment standards, environmental impact, basic work site safety rules, and employee HSE trainings.

PCS will maintain close liaison with its sub-contractors to ensure the followings.

- Inspections and scheduled audit shall be carried out for sub-contractors
- Spot check and inspections shall be carried out on sub-contractor employee movements.
- Ensure Subcontractors shall monitor to follow HSE plan, procedures and accountable for the task and target objective as mentioned in the HSE plan.
- Ensure subcontractor personnel actively participate in the HSE promotional activities, awareness programs and incentive schemes.
- Ensure appropriate lines of communications to handle HSE issues e.g. handling of injury cases, emergency situation etc.
- Ensure all subcontractor personnel are aware about emergency response procedure and arrangements.
- Ensure subcontractor management commitment towards HSE.
- Ensure provision and supply of PPE for all sub-contractor employees
- Ensure each Subcontractor is expected to take a proactive attitude towards safety by reviewing its standard practices to reduce exposure to unsafe conditions.
- PCS will assess its Sub-contractor's objectives and complying with Regulatory agencies rules and regulations.
- Ensure all subcontractor personnel shall undergo mandatory HSE trainings.
- Ensure to conduct HSE kickoff meetings for all subcontractors
- Ensure safety and PTW coverage for subcontractor activities
- PCS will assess subcontractors past HSE performance statistics, personnel competence, maintenance of approved subcontractors list and provisions for implementing safe systems of work.

8.3 COMMUNICATION:

This section provides information about the routes of internal and external links, management participation, coverage's and awareness, types of communications (i.e. written and verbal, emergency) types of communicational meetings, meeting structure, follow-up actions, consultation and training with regard to health, safety and environment.

The following are the types of HSE communication systems shall be held as a minimum, but not limited.

- Planned HSE meetings and training programs.
- Toolbox talks or pre-job meetings on site before the start of any work to discuss the job steps, the specific hazards pertaining to the job and the controls to minimize the risk, etc.
- Drivers and Operators forums to brief about the importance of the vehicle's maintenance, reporting about the defects, learning points about the incidents both from company & other company & site etc.
- Consultation to the employees concerns on Health, safety and environmental matters.
- Set up appropriate lines of communications to handle HSE issues such as direct access to the emergency services, nearest hospitals, site emergency vehicle availability etc.
- Displaying caution, mandatory and information signs, emergency contacts and notices
- Prepare and circulate monthly HSE themes and bulletins
- Organising Emergency drills and trainings that would be expected to provide support in a major incident of requirements.
- Each employee is kept informed about HSE items via:
    - Pre-job instructions.
    - HSE boards.
    - HSE statistic boards.
    - Specific messages by management.
    - Training, courses, seminars.
    - Special instructions.

- Each employee will be given the opportunity to express his opinion (complaints, ideas, questions), e.g.:
  - Via his supervisor.
  - In toolbox and JSA meetings.
  - In departmental or project meetings.
  - Via the suggestion box.

❖ **Hazard Communication:**

The purpose of the Hazard Communication Program shall be to ensure that information concerning the hazards of all chemicals used/handled on project is provided. The hazard information allows employees to participate in and support the protective measures instituted on this project.

- Examples of qualities, which make a chemical "hazardous", include but are not limited to:
- Flammable, combustible and/or explosive
- Corrosive (acids/caustics)
- Irritating/damaging to the eyes and/or skin or contact
- Poses health hazard through inhalation, ingestion or body contact
- Any known or suspected carcinogen

Communication programme includes Hazard:

- Material safety data sheets (MSDS)
- Labels and other forms of warning
- Employee information and training
- COSHH (Control of Substances Hazardous to Health)

❖ **Interaction with External / Interested Parties**

Establish communication with external parties and prospective clients related to HSE performance of the PCS in normal circumstances and to communicate externally incidents that may endanger those on site.

Establish Governmental agency reporting procedures

Ensure to communicate an emergency to all of employees. Communications take to account variety of languages amongst the workforce.

8.4 HSE MEETING PROGRAM:

Site HSE Co-coordinator shall attend HSE Meetings.

Internal HSE meetings shall be chaired by the PCM. The HSE Co-coordinator shall schedule all HSE meetings by consulting with PCM. PCM will nominate the responsible management person for the committee along with the members of PCS and subcontractor management.

8.5 MANAGEMENT PARTICIPATION:

Management will ensure that the policy decisions are communicated to all employees by means of a structured HSE Committee network. Managers should be seen to be involved by employees in HSE activities, objectives setting and monitoring.

The responsibilities of this HSE meeting Committee shall include the following:

- Overall objective analysis of the site HSE activities.
- Good safety practices being adopted / to be adopted.
- Deficiencies found during safety inspection and measures to be taken to improve the same.
- Incidents / accidents or near misses that have occurred and review of Investigation and recommendation.
- Hazards observed and corrective action to be taken.
- Identification of Unsafe act

8.6 HSE MEETING STRUCTURE:

- Ensure to allow all employees full involvement and own ideas to be heard
- PCM and QHSE Manager shall attend HSE meeting regularly.
- The contents of the previous meeting shall also be reviewed and discussed.

The HSE meeting members shall comprise of the following personnel.

Project & Contract Manager	-Chairman
HSSE Co-coordinator	-Lead
PCM	-Committee member
Site Engineer	-Committee member
Work supervisor (one from each discipline)	-Committee member
Work crew representatives	-Committee member
HSE Officer	-Documentation

- Meeting shall be held on a fixed day of each month internally with PCS representative participation.
- Minutes of meeting shall be produced by the committee secretary/Lead and action parties identified. Minutes of meeting shall be forwarded to client and head of HSE.
- Meetings shall be held according to a standard agenda, which is to be distributed at least seven days before the meeting is held.
- Written minutes of decisions taken and actions and responsible persons for actions shall be kept.
- Minutes of meetings should be signed by Sr. PCM and the HSE Co-coordinator.
- HSE Representatives shall be members of the various HSE Committees or be represented on these forums. Attendance should be clearly indicated on the attendance records.
- Each Manager/Supervisor must report to their respective HSE Committee, concerning his division's HSE achievements and performance.
- Management, the workforce shall be represented on each HSE Committee.
- All HSE Committee Meeting minutes shall be filed and retained for reference.
- The HSE meeting minutes must make provision for an "action" and "date" column and minutes and action plans shall be circulated to employees. It shall also specify responsible person for each action based on meeting procedure.

The HSE meeting shall be recorded and copy of minutes of meeting shall be forwarded to all concerned for action and implementation. In this meeting the suggestions of the attending members shall be reviewed on their past experience and shall be recorded for action and implementation.

8.6.1 FOLLOW UP ACTIONS:

The points discussed in the meetings will be taken up for action by concerned individuals with target dates. Where action is agreed or not agreed will be explained.

8.6.2 MEETING COMMUNICATIONS:

- The results of the HSE meetings both successful and less successful openly communicated to all employees.

- Meeting minutes recorded clearly and consistently based on meeting procedure
- Minutes of the meeting recorded, and specific points will be published on notice board.

8.7 HSE PROMOTION AND AWARENESS:

HSE promotion and awareness program will ensure an appropriate communicational technique will be used to make the personnel aware of HSE issues. This will be implemented using following techniques.

- Safety Notice Boards, posters and signs shall be erected at prominent locations which will be easily visible to employees.
- Personal contact and discussion on HSE points.
- Safety posters in pictorial form
- Interactive video films on safety
- Safety Newsletters / Safety Alerts and newsletters
- Safety themes and bulletins
- HSE performance boards install at project main entrance
- Promotional methods including with HSE messages, competitions and suggestion schemes etc.,
- Ensure it this program as a part of business

8.8 HSE PERFORMANCE MONITORING & RECOGNITION PROGRAM

8.8.1 MEASUREMENT OF HSE PERFORMANCE:

HSE performance will be measured by Statistical indicators such as LTIF. Incentive schemes will promote the safety consciousness. The achievement of milestones, the number of employees trained in HSE courses, the number and the audits made, closed out corrective action requests, and compliance with HSE regulations will measure the HSE performance.

In measuring the HSE performance, the number of first aid and minor injuries, LTIF material losses, vehicle incidents, spillages, occupational illnesses and sickness absenteeism will be taken into consideration.

8.8.2 FEED BACK / ANAYLYSIS:

The performance records will be compiled monthly, discussed and reviewed in HSE meetings and the employees stressed about the need to improve the HSE performance.

8.8.3 PERFORMANCE MONITORING:

Regular planned inspections shall be undertaken. Supervisors shall continuously monitor Safety on the site as an integral part of their line responsibility. Any substandard practices and conditions noted during the inspection shall be recorded in the inspection report appended to the plan.

As part of the project's environmental, health and safety culture planned environmental, health and senior management on a routine basis along with the site walkthrough shall undertake safety tours. These Health and Safety Tours are designed to be a highly visible walkthrough by senior management. During these tours, senior management shall encourage feedback from the workforce and identify the actions necessary to improve the project's health and safety performance. Any substandard practices and conditions noted during the tour shall be reported on the "HSE walk through report".

8.8.4 PROACTIVE PERFORMANCE RECOGNITIONS MEASURES

HSE INCENTIVE SCHEMES:

HSE incentive scheme is intended to help facilitate a high level of Health, Environmental and Safety awareness and motivate personnel to comply with the project HSE requirements and promote safe behaviors on project. For details relating responsibilities, selection criteria and incentive schemes for the Project are finalized.

- HSE performance indicators – e.g. Weekly monthly HSE performance statistics.
- HSE Trainings and awareness programs conducted for the project employees
- Assessment of HSE performance, effectiveness and annual HSE goals and objectives will be compiled from the following bases:
    - Significant risks identified.
    - Long term continuous improvement plans.
    - Internal and external audit findings.
    - Training systems.

Monitoring and review Progress against targets and Management commitment on clearance of action items.

Suggestion card system shall be followed:

- Objective of this system is to motivate the employees to report all the unsafe conditions and unsafe acts noticed by them before it results in an incident. It also gives an opportunity for the employees to provide suggestions to improve the OH&S system.
- These cards will be available at the site and in the camp. Suitable boxes for collection of the suggestion will be installed at various locations.
- The boxes will be provided with lock and key and one responsible person will be earmarked to clear the box every day. The card will be passed on to the engineer-in-charge of the site for taking any corrective/ preventive action and the contents will be passed to QHSE Manager.
- All near misses/ suggestions received will be summarized on Tuesday evening and the contents of these will be communicated to all sites for discussions in the toolbox talk on the next Thursday. Best four suggestions / near miss reports during the past month will be decided every month and the details of the winners will also be communicated to all the sites. HSE officer shall take this decision along with a minimum of two core committee members.
- Direct observation of conditions and of people's behavior (sometimes referred to as unsafe acts and unsafe conditions monitoring)
- Talking to people to elicit facts and their experiences as well as gauging their views and opinions
- Examining written reports, documents and records
- Health monitoring.

8.9 HSE INSPECTIONS:

PCS recognizes that hazards (substandard practices and conditions) can lead to accidents. All personnel on the project will be actively encouraged to report hazards on the appropriate report form. During the site induction training all personnel will be made aware of the reporting procedure and given typical examples of substandard practices and conditions that require reporting.

Whenever a hazard is observed it should be investigated with the object of:

- Establishing root, basic, real or underlying causes
- Taking action to prevent further recurrences.

To encourage and enhance safety awareness and safe working practices, the safety inspection system will involve everyone by using the four-step safety system. The four-

step safety system enables all personnel to review the status of safety as they go about their normal work.

- Is The Workplace Safe?
- Are Tools And Equipment Safe?
- Do People Know The Safe Work Method?
- Compliment Safe Performance. Correct / Unsafe Performance.

As part of the project's environmental, health and safety culture planned environmental, health and safety tours will be undertaken by senior management on a weekly basis. These Health and Safety Tours are designed to be a highly visible walkabout by senior management with the aim of demonstrating management commitment to its environmental, health and safety policy.

During these tours, senior management will encourage feedback from the workforce and identify the actions necessary to improve the project's health and safety performance. Any substandard practices and conditions noted during the tour will be reported on the "Safety Inspection Report".

Both line management and HSE personnel will conduct regular safety inspections. The Construction Supervisors or the responsible Foremen as per the schedule given below shall carry out the following inspections:

The client representative will be invited for the internal HSE inspections from observation point of view. For HSE inspections conducted by regulatory or client /, PCS HSE Officer will co-ordinate and corrective action requests will be closed out within the targeted period.

The following inspections shall be carried out by the Line Supervisors/HSE Supervisor, as per the schedule attached. The respective inspection formats will be used.

Items of Inspection but not limited to:

- Fire Extinguishers (Site, offices, Workshop, etc.)
- Construction Equipments
- Vehicles
- Fabrication shop
- Lifting Tools
- Housekeeping
- First Aid Boxes

- Hand tools
- Power tools
- Scaffolds
- Work Sites
- Camps

8.10 EQUIPMENT HSE INSPECTIONS

A list will be drawn up of all the HSE Equipments, their types identified, capacity marked and the standards kept for reference.

A register will be kept for classifying the Equipments, as required and with test certification. Certified items of equipment will be subject to HSE inspection, their procedures established for inspection and standards and the inspection schedule of such items drawn up and carried out. Critical items will have more frequency than other non-critical items of HSE Equipments.

The Equipments that will be used and inspected in the Area for example are as:

8.10.1 CRITICAL ITEMS FOR HSE INSPECTION

All plants and equipment will be in position of approved third-party inspection certificates.

- Lifting tools and tackles
- Plants and Equipments (Excavators, Front End Loader, JCB/Cranes)

Detailed checklists are prepared for all inspections.

8.11 REACTIVE PERFORMANCE RECOGNITIONS MEASURES

Number of accident and minor injuries

Number of vehicle incidents

Number of occupational illnesses etc.

8.12 NON-CONFORMANCE AND CORRECTIVE ACTION

Non-conformance with HSE requirements can be focused on people, either the supervisor or the worker. The real or basic cause of non-conformance occurs because of either a lack of knowledge or skill or an improper motivation or attitude. It follows that the solution for lack of knowledge or skill is proper training and coaching. In the case of improper motivation or attitude, it is the duty of the person in charge of the offender to establish the cause by using counseling and coaching.

When people are knowledgeable, and counseling and coaching has not provided a solution then disciplinary action shall be taken.

The Disciplinary Action shall be taken as per HSE Philosophy of PCS for the project which defines Four Commitments and Four Actions.

Action no.4: Not a Single Violation shall be entertained, and a warning letter shall be issued to the Violator / removed from the project Site as per the project guidelines.

8. TRAINING:

The followings are included in the Training procedure, but not limited to

Training Programs:

HSE training plan for employees working on site is designed based on training requirements. The topics covered shall be E.g. Safety Induction, PTW, JSA/RA, Heat Stress Awareness, working at height, Scaffolding, Safe use of ladders, CSE, Basic fire fighting, First Aid, Emergency preparedness, Excavation, Electrical Safety, Chemical Handling, Rigging and slinging, Manual Material handling, Hand tools and power tools, Environment protection, Waste Management etc. Other training as per need shall be provided.

❖ **Coverage and provisions**

- Training shall be scheduled to support the volume of people mobilizing to the site. Additional training sessions may be provided for special cases;
- Specialized trainings will be delivered by approved third-Party trainers
- The training shall be held in the language understood by most of the participants receiving the training. Languages are expected to include: English and Hindi;
- The effectiveness of the project HSE training program will be assessed by the HSSE Co-ordinator, throughout the duration of the project and improvements will be made as necessary;
- The training shall take place in the PCS Training Center (provided with Room shall be air conditioned for employee comfort, potable water, and nearby toilet facilities);
- PCS shall document all training and maintain files; and
- PCS shall make training records available for audit.

❖ **Emergency training**

Trainings cover the actions to be implemented and employees responsibility in an emergency.

8.1 EMPLOYEES ORIENTATION PROGRAMME:

PCS will impart the necessary HSE Induction to all the new employees. At the end of the induction training, they will have acquired HSE knowledge and will be equipped to perform their jobs safely, which will be reviewed by PCS QHSE Manager.

This Induction is intended to improve their working practices before being mobilized to site. The HSE training centre will be fully equipped for the HSE trainings enabling the personnel to learn and understand more on HSE aspects. The Centre will have a classroom equipped with an Overhead Projector, Slide Projector, Screen, Flip Chart etc.

All new employees at the work site will be explained by HSE officer / Site Supervisor about the established procedures and trained to improve their skill to suit the work requirements. It will be emphasized that they are accountable for their HSE performance and failure to follow the procedure will result in education and disciplinary action as appropriate.

The following aspects for the HSE training shall be implemented, but not limited to:

- PCS HSE Coordinator shall prepare a training schedule.
- Training shall be scheduled to support the volume of people mobilizing to the site as per training matrix. Additional training sessions may be provided for special cases;
- All parties requesting training must be in the training room at the specified time. Late parties will be denied training and must be rescheduled;
- The training shall be held in the native language of the personnel receiving the training. Languages are expected to include: English and Hindi;
- All new employees adequately trained
- On job orientation for the supervisory staff
- A list of clients approved HSE courses should be made available.
- PCS HSE officer personnel will take a pass/fail test following the orientation/training to validate their comprehension of the information. Attendees who fail will be required to re-attend HSE training and re-test;

- The effectiveness of the project HSE training program will be assessed by the HSE Coordinator, throughout the duration of the project and improvements.
- No more than 30 people shall attend a single HSE course
- Trainers shall be qualified to answer possible questions including technical HSE questions;
- The training shall take place in the PCS's Training Center (provided with Room shall be air conditioned for employee comfort, potable water, and nearby toilet facilities)
- Project HSE Officer shall document all training and maintain files.
- HSE Officer shall make training records available for Client / internal audits.

8.2 Toolbox Talk:

Daily Toolbox talks will be established on the Project and held as appropriate to the needs of the operational scopes.

Toolbox talk is a useful tool to provide short briefing to refresh, update and supplement of the safety knowledge to the workers. PCS will provide tool box talk in particular topics having regard to the activities on the site and the prevailing safety concern at that time, to all workers once a week or more frequent.

Toolbox Talks aim to:

- Keep people informed of project issues.
- Announce changes affecting the project.
- Discuss project-wide topics that apply to all people (e.g. driver safety, first aid, etc.).
- Feedback from major incidents and hazards.
- Communicate company messages:
- Announcements from Senior Management and the HSE Coordinator.
- Feedback from incidents at other centres.
- Connect crews, teams, and make people on site known (e.g. Managers, Supervisors, HSR, etc.).
- Discuss or reinforce specific information relating to the Project (such as SWI, JSEA, and SWMS).
- Discuss the project's performance, with respect to achievements and work completed.

- Review schedules and predicted issues for upcoming work.

A written record will be kept of all Toolbox Talks held, by the SMT, and communicated to the workforce via display.

Topics of the toolbox talk may include but not limit to the following:

- Excavation safety
- Fire prevention
- Lifting operation
- Working at height
- Work near Mobile Plant
- Works near Underground / Overhead Utilities
- Work in confined space
- Housekeeping
- Use of ladder
- Prevention of heat stroke
- Correct use of Personal Protective Equipment
- Manual handling operation
- Hot work
- Hand tools
- Mechanical power hand tools
- Electricity safety
- Safe use of plant and equipment
- Eye Protection
- Noise
- Chemical safety
- Scaffolding/ Fall arrest
- Night Work
- Oil storage & Refilling / Spill management

- Any other topic suggested by the client or identified as an outcome on an incident.

SUB-CONTRACTOR PERSONNEL

All Sub-contractors employees will go through the HSE Induction carried out at HSE training hall and other skilled training courses from the approved institution.

PROJECT VISITORS / VENDORS:

Visitors (i.e., those attending site for one full day or less) shall not be required to undergo the full HSE orientation /training. They shall receive as induction that covers the risks associated with their site activities and the locations where they may be required to enter. They must still undergo normal safety briefing / emergency awareness before access to the site is allowed.

Visitor inductions will generally cover the following information

- CLIENT policies and commitments;
- General site rules;
- Location map and Evacuation Assembly Areas;
- Emergency procedure for evacuation;
- Minimum PPE requirements;
- Visitor's responsibilities;
- Visitors register.

All visitors must sign in the Visitors Register upon their arrival on site and sign out at the time they leave the site.

9. HAZARD INDETIFICATION AND RISK ASSESSMENT:

The risk evaluation and management program is summarized below. For additional information relating to the risk evaluation, management of risk, guidelines for the risk assessment, risk assessment philosophy and approach, risk rating and mathematical evaluations, risk assessment committee responsibilities and for Risk assessment

forms etc. refer to PCS document Hazard identification and risk assessment procedure.

9.1 HAZARD IDENTIFICATION:

PCS shall establish and maintain a system for systematic identification, assessment and control of potential risks that may arise in activities or material in use. The system shall be applied to all activities and facilities and shall include potential impact on people, assets, environment, project interruption and company reputation. PCS shall ensure that the results of assessments and the effects of controls be considered during construction and commissioning stage. PCS shall document and keep this information up to date.

9.2 Job safety analysis

Job Safety Analysis is a tool, used by supervisor to help identify and communicate hazards associated with a specific activity that is about to be performed.

JSA would be carried out for all critical activities identified in the Hazard Identification and Risk Assessment procedure, which will be developed in due course for risk evaluation checklist. The front line supervisor/designee and the job performer(s) together analyze the assigned job for hazards at the work location.

After an agreement is reached between the front line supervisor / designee and the job performer(s) the work will commence. Job Safety Analysis is showing or explaining or both, to each employee the safety application that pertains to the job they are to do.

Supervisors can protect employees from possible injury by ensuring that each employee thoroughly understands every safety instruction given on each job they are to perform. Any supervisor guilty of negligence in the use of Job Safety Analysis, whether involved in any accident or not, is committing the most serious offence possible in our accident prevention plan. Failure to perform a Job Safety Analysis before beginning a task may result in disciplinary action up to and including termination of employment.

9.3 RISK ASSESSMENT:

Risk assessment is based on two factors, viz. the severity and the frequency of the hazard occurring. Risk is the product of severity and likelihood (probability).

RISK = SEVERITY X LIKELIHOOD

9.3.1 Risk Matrix

Likelihood	Consequences/Severity			
	1. Minor	2. Medium	3. Major	4. Catastrophic
A. Frequent	Medium	Medium	High	High
B. Occasional	Medium	Medium	High	High
C. Probable	Low	Medium	Medium	High
D. Remote	Low	Low	Medium	High
E. Improbable	Low	Low	Medium	Medium

Likelihood Classification:

A. Frequent — Likely to occur frequently
B. Occasional — May occur occasionally
C. Probable — Unlikely but possible to occur
D. Remote — So unlikely that occurrence may not be experienced
E. Improbable — Occurrence is rare

Consequence/severity Classification:

1. Minor — Part of process failure / Minor bodily injury
2. Medium — Part of line function failure / Middle bodily injury
3. Major — Major damage to work system / Serious bodily injury
4. Catastrophic — Whole system completely break down / Fatality

The residual risk will be arrived at considering the control measures suggested in the risk assessment sheets. Risk rating shall be minimized by:

- Reducing the severity of the injury likely to be caused by the hazard and
- Reducing the likelihood of the injury occurring.

9.3.2 THE HIERARCHY OF CONTROL MEASURES:

The hierarchical process of implementing control measures would be:

- Eliminate the risk by removing the hazard
- Substitute the process with one that is less risky
- Control the risk at source
- Devise safe systems of work
- Provide adequate instruction and training
- Ensure adequate supervision
- Provide suitable personal protective appliances

The residual risk after implementing the control measures shall be maintained as low as reasonably practical. The management shall periodically decide and assign guidelines for the fixation of acceptable risk levels.

Based on the risk rating, the risk is classified as follows

9.3.3 Risk Rating and Action Criteria:

Risk level	Priority	Action required
High	1st	Immediate action is required to eliminate or reduce the risk level
Medium	2nd	Implement control measures within specified time frame.
Low	3rd	Tolerable risk, no additional control measure is needed but continuous monitoring is required to ensure that the existing controls are maintained effectively.

If PCS risk rating differs with the contractor, contractor risk rating shall be followed.

10. INCIDENT INVESTIGATION AND REPORTING:

The near misses and other incidents will be covered as per to PCS procedure. They will include injuries to personnel, time lost, health incidents, environmental incidents

and property or material losses. Incidents shall be informed immediately by mobile phone to Client HSE Manager and subsequently Incident report shall be submitted to Client.

10.1 INVESTIGATION:

PCS HSE and Construction team will conduct an initial investigation on the incident, collect details, identify the causes and take action to eliminate the unsafe acts or the unsafe conditions which resulted in the incident.

The details collected will include:

- The injury to the personnel (if any) involved in the incident.
- Damage to any Plant/Equipment.
- Loss of property / material.
- Environmental impact.
- Description of the incident with date time location and persons involved.
- The primary and the root causes of the incident.
- Events leading to the incident (in case of high potential incident).
- Corrective and preventive actions.
- Re-evaluation of risk assessments or JSA as required
- Any other symptoms that will give a clue to the incident.

The investigation will be carried as immediately as possible to analyze the true causes and the evidences will be till the investigation is complete. Investigation report shall be submitted to Client HSE Manager.

10.2 REPORTING

All incidents shall be reported to the QHSE Manager. The reporting shall be made in the format as per the as per Reporting Procedures.

The incidents occurring in the month will be reported in the “Health & Safety Statistics Monthly return”.

10.3 RECOMMENDATIONS AND FOLLOW UP

The conclusion drawn after analyzing the causes will be used to rectify the conditions. The PCM will rectify the situation and the conditions will be reviewed after the targeted period. The incident, the consequences and corrective measures to prevent recurrence will be discussed in HSE meeting.

In case of LTIs, investigation shall be done by a team formed by the PCM.

10.4 HSE REPORT STATISTICS

The HSE statistic shall be tabulated and forwarded to PCS HSE Engineer. Incident statistics shall be passed to the PCS Head Office on monthly basis. Details of the following classification of statistics related to injuries and near miss incidents shall be tabulated.

These statistics shall also be brought to the notice of the PCM for his review and assessment against the HSE targets

Standard format, consisting of the following classified headings shall be tabulated:

- Man-hours worked
- No. of Lost Time Injuries (LTI)
- No. of Man days lost
- No. first aid cases
- No of vehicle incidents
- No. of fire incidents
- No of near miss incidents
- No. of occupational illness cases
- Property damage cases
- Environment incidents

The above information will be reported to Client HSSE Department through the weekly and monthly report.

11. MANAGING HSE AT WORK SITE

As the work progresses PCS will strictly follow the approved project procedures and regulations along with local regulations, the work will be carried out in phases. Each group will be effectively controlled by a responsible supervisor who is trained in HSE. The Site HSE officer will be continuously monitoring all activities for effective Implementation of HSE plan.

- Safe performance is a condition of employment. It is extremely important to obey rules and be fully compliant with procedures
- Employees are held accountable for their actions and the impact their actions have on others;
- Disciplinary action shall be enforced, as required;
- PPE use is required for all personnel;
- Horseplay is strictly prohibited;
- The use or being under the influence of illegal drugs or alcohol is subject to immediate dismissal;

- All occupational injuries and illnesses must be reported to supervision immediately;
- Tools and equipment are maintained in accordance with requirements and in good operating condition
- Tools and equipment are to be inspected prior to each use. Damaged or defective tools are not to be used. Tools are not to be welded, heated or altered from their originally manufactured state;
- The use of any home-made tools is prohibited;
- Materials, tools or other objects are not to be dropped or thrown from elevated work areas;
- Barricades and/or signs are placed where necessary to warn against hazardous conditions or activity. Employees shall comply with all safety signage and erected barricades;
- Access to emergency equipment, fire extinguishers, alarm boxes, hose houses, etc., is maintained at all times;
- Firearm/weapons onsite are prohibited;
- Unsafe conditions and activities must be reported immediately;
- Keep scaffolds, overhead landings, walkways, catwalks, etc., free of loose tools and materials;
- All work activity shall be undertaken in an acceptable industry practice safe manner;
- Obey traffic regulations and rules;
- Hair length that exceeds the collar length shall be maintained under the hard hat at all work times
- Beards and long moustaches may be prohibited in some locations and for those employees required to use a respirator;
- Smoking is permitted in marked designated locations only;
- Consumption of food and beverages outside of established eating areas is prohibited.

12. FIRST AID FACILTY

A qualified First Aider will be present on the site. 1:50 ratio shall be maintained. First aid kits shall be provided on site at strategic locations. Concerned Supervisor's will be HSE trained and instructed.

The Health and Safety (First Aid) Regulations 1981, ISO 45001:2018 & ANSI-Z10-2005 provide adequate and appropriate equipment, facilities and personnel to enable first aid to be given to employees if they are injured or become ill at work site.

The minimum first aid provision on work site is:

- A suitably stocked first aid box.
- One First Aider for every 50 employees at site.

12.1 FIRST AID ARRANGEMENTS

PCS will inform all the employees of the first aid arrangements. Putting up notices informing all employees as to who and where the first aiders are available and where the first aid box will usually be located. List of trained first aiders will be displayed at strategic locations.

1. A qualified first aider will be duty on the site during working hours. Arrangements will be made to cover leave, sickness and shift work.
2. All personnel on site will be informed of the first aid arrangement via the site orientation training.
3. First Aider's name to be displayed on the site notice board.
4. Adequate numbers of first aid boxes and facilities will be provided and located at proper locations.
5. The First aider or designate staff shall inspect the first aid facilities regularly and take appropriate actions to ensure all of them are in proper conditions.
6. On every work site on which between 5 to 25 persons are employed persons are employed, a first aid box shall be provided and maintained which shall contain a sufficient quantity of first – aid materials and nothing else. The box shall be in charge of a responsible person whose name shall be clearly shown on the outside of the box. Every incident involving the provision of first-aid shall be recorded in writing.

   The record shall show:

   - The name and work number of the person receiving the first aid.
   - The date, time and place of the incident.
   - Details of the injury.
   - The name of the person making the report.
7. On sites on which over 100 persons are employed, a first aid-room shall be provided manned by Male Nurse.

   The other duties of Male Nurse shall be such as to interfere with the primary function of administering first aid. The first-aid room shall be provided to the

following standard:

- The first-aid room shall be available at all times when employees are at work.
- The room shall be located so as to give access for vehicular transport to hospital.
- The room shall be maintained in a scrupulously clean condition, be adequately lighted and equipped to maintain a comfortable temperature.
- A sink with hot and cold running water, soap, nail brush and paper towels.
- Smooth, impervious worktops.
- A couch with a pillow and blankets.
- An adequate supply of sterile dressings.
- A clinical thermometer
- Clean garments for use by medical staff.
- A store for first-aid materials
- A lidded refuse container.
- A refrigerator.

The First Aid room and Male Nurse shall be provided by the Contractor.

12.2 Trained First Aiders

A first aider is someone who has undergone an approved first aid training course in administering first aid at work and holds a current and valid certificate. PCS will maintain first aiders ratio 1:25. List of first aid trained persons shall be displayed at strategic locations.

13. EMERGENCY RESPONSE PLAN

Most emergencies are expected to be relevant to the environment, personal injuries and localized incidents rather than major project work or severe structural failure damage.

In general, for the scope of this procedure, emergencies include an incident that causes or could potentially cause serious injuries or damage within project sites.

Emergencies include:

- Serious Injury (see classification of injuries)
- Fire (sufficiently large to require Emergency Service presence)
- Adverse Weather Conditions (torrential rain, sandstorm, extreme heat)
- Structural collapse / Crane overturn striking a structure
- Earth Slippage / Formwork Collapse / Utilities Strike

PCS shall comply with Emergency procedures and shall attend training, drills or scenarios intended to be carried out on the project.

PCS will conduct mock drills on approval from and in coordination with CLIENT once in six months and will keep records.

13.1 Emergency Team (ET)

An Emergency Team shall be established with the help of client to provide prompt response to emergency situations. The emergency team shall comprise of members of an Emergency Coordinator, Safety Personnel, First Aider and/or other staff as appropriate.

13.1.1 RESPONSIBILITY OF EMERGENCY TEAM MENBERS

Emergency Coordinator (EC):

a. Be responsible for the whole operation of emergency and rescue procedures.
b. Determine the severity of the cases and take appropriate actions.
c. Appoint emergency team members, ensure that they are trained for all emergency steps and take part in drills carried out at his discretion.
d. Review the emergency procedures periodically with the assistance of the Safety Officer.
e. Delegate his duty to a person who is deemed to be capable and familiar with the system when the EC is absent from the Site to perform his duties or is unable to respond to emergency situation.

Deputy Emergency Coordinator (DEC):

a. Be responsible for the whole operation of emergency and rescue procedures in case of EC's absent on site.
b. Determine the severity of the cases and take appropriate actions.

c. Appoint emergency team members, ensure that they are trained for all emergency steps and take part in drills carried out at his discretion.

d. Review the emergency procedures periodically with the assistance of the Safety Officer.

e. Delegate his duties to a person who is deemed to be capable and familiar with the system when the EC is absent from the Site to perform his duties or is unable to respond to emergency situation.

First Aider (FA):

a. Render on-site first aid treatment as necessary.

b. Inspect the rescue equipment at regular intervals to ensure the equipment is in place and in good condition.

c. Accompany the injured person to hospital, where required.

d. Report the latest situation of the injured person to the EC.

General Members:

a. Follow the EC's instruction to perform emergency duties.

b. Implement the emergency procedures and rescue tasks.

c. Control or mitigate hazards at the scene to prevent further damages to property or injury to person under a safe condition.

d. Inspect the rescue equipment at regular intervals to ensure the equipment is in place and in good condition.

e. Arrange necessary personnel, plant or equipment for rescue works.

13.2 EMERGENCY COMMUNICATION

HSE Coordinator shall establish an emergency contact list and communicate it to all employees via the Site HSE Orientation Training and notice board display. The contact list shall include the name and telephone number of relevant parties as below:

Emergency Team	**Name**	**Telephone No.**
Emergency Co-ordinator	Mr.	
Deputy Emergency Co-ordinator	TBA	
First Aider	TBA	

General Foreman	TBA	

13.3 GENERAL EMERGENCY PROCEDURE

General Principle:

1. Any person who witnesses an emergency shall report it to the Contractor's Site Supervisor / General Foreman / HSE Coordinator / HSE Officer / Emergency Team as soon as possible.
2. The Emergency Team shall take over the situation. Under a safe condition, they shall try to save the victims immediately and remove any imminent danger at the scene.
3. The accident scene shall not be disturbed if the case involves death, serious injury or dangerous occurrence until arrival of the relevant local authorities e.g. Police. The accident scene shall be cordoned off to ensure no unauthorized persons approaching.
4. In case of serious accident happened or any emergency situation that is beyond control, call the Local Emergency Services e.g. 999 directly. However, such services shall not be abused.

Means of Escape:

Means of escape on the Site may change from time to time. However, all escape routes shall be kept free from obstruction at all times. An updated site layout plan showing all emergency routes shall be displayed prominently.

Emergency Assembly Point:

An emergency assembly point should be set up at a suitable location. The Emergency Assembly Point should be clearly marked on the site and communicated to all employees at the Site HSE Orientation Training.

Evacuation procedure:

Once the evacuation signal is activated, the following procedures shall be adopted:

1. EVACUATION ALARM (or other effective means of communication) is sounded;
2. If it is safe to do so, plant and equipment should be turned off and made safe;

3. Leave your area by the nearest exit in an orderly manner;
4. Request site visitor (if any) to come with you;
5. Assemble in the Emergency Assembly Point and await further instructions. Do not leave unless told to do so by your supervisor;
6. Obey all instructions; and
7. Check that all people are in the assembly area or accounted for.

Search and Rescue:

If search and rescue is required, Emergency Coordinator should evaluate the risk and make decision on the manageability of the search and rescue task. If the risk of the search and rescue task was considered unacceptable or which could not be manageable by the site Emergency Team, the search and rescue task should be handed over to the Local Government Emergency Services Departments.

Emergency and Rescue Equipment:

Suitable emergency equipment should be provided and ready on the Site for emergency services. Emergency equipment to be provided shall include but not limited to:

- Stretcher
- Torch
- First Aid Box
- Emergency Lighting
- Suitable Personal Protective Equipment
- Self-contained breathing apparatus (for confined space workplace)
- Communication facilities
- Loud Hailer.

Information to be provided while seeking Qatar Emergency Services Departments:

Adequate and clear information should be provided. The following information should be provided at the time of call:

1. Name of the Company, contact person and contact telephone number,
2. Location of the Site, accident scene / name of the barge,
3. A brief description of the accident, degree of injury and the number of injured persons,
2. Whether the injured person is movable or is trapped,
3. Type of assistance required. (E.g. ambulance, rescue team, helicopter or fire brigade, etc.).

13.4 POSSIBLE EMERGENCY SITUATIONS AND RESPONDING PROCEDURES

- **Bodily Injury**

Minor Injury:

Definition: Abrasion, laceration or minor bleeding

a. First aider provides first aid treatment, or
b. Visit the First Aid Station
c. Injured person (I/P) resume to work

Middle / Serious Injury:

Definition: Further medical attention is required after preliminary dressing. (e.g. large bleeding, head injury or fracture, etc.)

a. First aider provides preliminary first aid treatment, or
b. Visit the First Aide Station & report to PCM & HSE Coordinator
c. Deliver the injured person to the nearest hospital;
d. The first aider or foreman shall accompany the injured person to the hospital.

Serious / Fatal Accident:

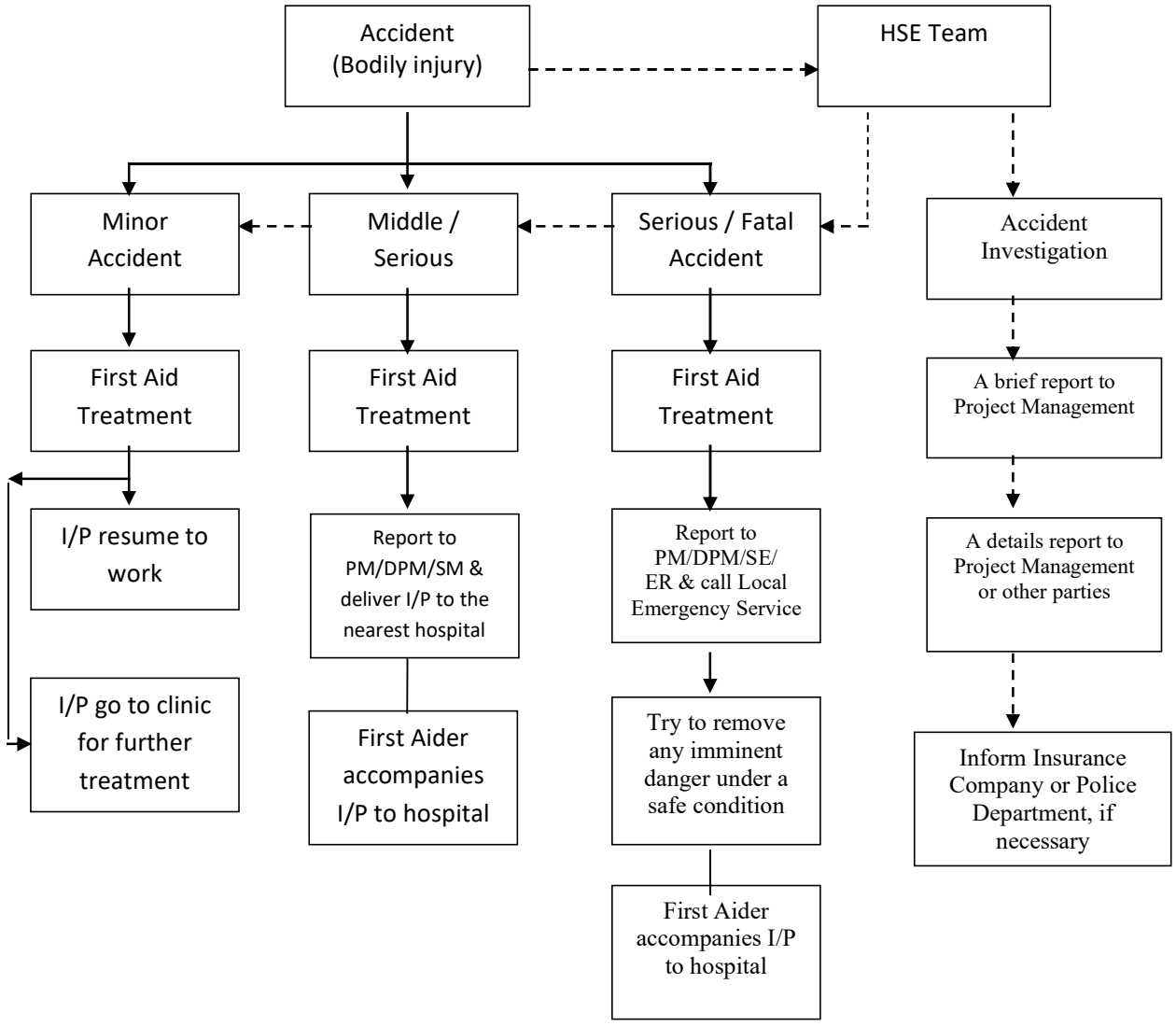
Definition: Amputation, multiple fracture, spine or pelvis injury, toxic, or person being trapped, etc)

a. First aider provides preliminary first aid treatment, where appropriate;
b. Report to Local Government Emergency Service Department for arrangement of picking up the injured person;
c. Report to PCM, Deputy PCM, HSE Coordinator and Engineering Representative

d. The First Aider / General Foremen shall accompany the injured person to the hospital, record the I/P's personal information and keep reporting the latest situation to the site office;

e. Ensure the accident scene is not disturbed until the arrival of relevant parties.

13.4.1 Bodily Injury Emergency responding Flow Chart



Note:

◄- - - Accident Investigation

I/P – Injured Person

**** First priority will be given to occupy any contract car / plant / resource for rescue purpose**

14. FIRE PREVENTION & LOSS CONTROL

14.1 INTRODUCTION

Prevention is the most effective tool against fires. All employees should be aware of common fire hazards in their respective places of work. Some of the leading fire hazards include smoking materials, open flames, sparks, combustible material, flammable liquids, paints and trash. The goal of fire prevention is to educate the employees to take precautions to prevent fires and be educated about surviving them. It is a proactive method of reducing emergencies and the damage caused by them.

The majority of fires can be prevented by identifying hazards, taking simple precautions and adopting safe working practices.

The conditions for fire:

Three factors are necessary for fire to occur.

1. Fuel or combustible material:
2. Heat or ignition source:
3. Air or Oxygen:

A fire will not take place unless and until fuel, heat and air come together in required proportion. If any one of these factors is isolated or removed, the fire will be extinguished. There are three basic ways of achieving this:

- **Starving:**
  Removal of the fuel or combustible material so that there is nothing left to burn
- **Cooling:**
  Removal of the heat by the application of water to cool the burning material
- **Smothering:**
  Reduction or exclusion of oxygen. Foam, dry powder, carbon dioxide (CO_2), and fire blankets are examples of smothering agents.

14.2 CLASSES OF FIRE

Categories of fire depend on the material under fire.

Class A – When solids such as paper, cloth, wood, rubber are burning, the fire is called as “A” class fire.

Class B – When liquids such as oil, thinner, paint are burning, the fire is called as "B" class fire.

Class C– When gases such as Acetylene, LPG, Butane, Propane, Oxygen are burning, the fire is called as "C" class fire.

Class D –When Combustible metals, such as magnesium, sodium and phosphorus are burning, the fire is called as "D" class fire.

Class E –Electrical fires – Any fire involving electrical apparatus or equipment is called as "E" class fire.

Extinguishing Medium for each classes:

Class A – Water

Class B – Dry Powder or Form

Class C – Dry Powder, Carbon dioxide

Class D – Special Dry Powder.

Class E - Electrical Fire: Carbon dioxide, Dry Powder. Never use water or foam when power supply is on.

14.3 FIRE PREVENTION

Fire prevention is achieved by implementing following;

Implementing hot work permit system.

Performing hot jobs in an isolated or barricaded area.

Smoking Restrictions

Removing combustible materials time to time.

Maintaining stock of flammables as low as possible

Providing industrial type electrical fittings.

Installing ELCB, MCB

Following safe work procedures

14.4 FIRE CONTROL SYSTEM

Fire is controlled by implementing following:

- Installing fire detection and alarm system
- Periodic checking and maintaining this system in good working condition.
- Providing fire extinguishers and other first aid fire fighting equipments
- Periodic checking and maintaining these equipments in good working condition.
- Providing and maintaining fire hydrant system.
- Providing training to employees in using firefighting equipments.

14.5 HOW TO USE PORTABLE FIRE EXTINGUISHERS

Stored Pressure fire extinguishers (Dry Powder/water/CO2 type):

The user of portable type fire extinguisher shall remember the word PASS, while operating the extinguisher.

P - Pull the pin.
A - Aim the hose at the base of the fire.
S - Squeeze the lever.
S - Sweep the hose from side to side till the fire is extinguished or the extinguisher is over. Use one more extinguisher till the fire gets extinguished. If the fire goes uncontrolled call fire brigade.

Cartridge type fire extinguishers (Powder type):

Pull the pin / clip.

Aim the hose at the base of the fire.

Hit on the top of the fire extinguisher. (Cartridge gets punctured and due to carbon dioxide gas pressure the powder expels out). Sweep the hose from side to side till the extinguisher is over. Use one more extinguisher till the fire gets extinguished.

If the fire goes uncontrolled call fire brigade.

Carbon dioxide type fire extinguishers:

Pull the pin.

Aim the horn at the base of the fire. (Do not hold the metallic part of the horn)

Open the valve on the top of the fire extinguisher. (To open: Turn the valve anticlockwise. CO2 will be expelled out with pressure). Sweep the horn from side to side till the fire is extinguished or the extinguisher is over. Use one more extinguisher till the fire gets extinguished.

If the fire goes uncontrolled call fire brigade.

Never use a fire extinguisher as a mischief or on human body. Do not use extinguishers as door stopper. When using an extinguisher to douse a fire, always stay between the fire and the way out. By doing this the fire fighter will be able to escape if anything goes wrong.

Never use an extinguisher unless you are properly trained. If the fire goes uncontrolled escape out, raise emergency alarm and call for fire tender or emergency handling team.

Fire-fighting equipments shall be inspected every month by competent personnel, and maintenance must be carried out in accordance with the manufacturer's instructions. Extinguishers shall be tested by discharge at intervals but shall recharge immediately after any use.

If there is a fire to the cooking pan in kitchen, do not use any fire extinguisher, just cover it with lid. Fire will get extinguished as it will not get air to continue.

14.6 FIRE HOSE REELS

Fire hose reels are installed in the conspicuous places in the workshop. Hose reels are linked into a constant water supply available at all the time and are very effective for fighting any fire.

Take the hose reel out. Connect male joint of it into a female adaptor. Unroll the reel. Hold the nozzle firmly in your hand and then open the valve.

Do not use a fire reel

- On live electrical apparatus
- On any fire involving fat, oil, paint, etc
- On any metal fire

Inspecting of Fire Hose Reels

- Access to hose reels is unobstructed
- Manual hose reels valves are in off position and are free from leaks
- All hoses are neatly wound on the reel
- Hose reel nozzles are not blocked
- Both hose reel pumps, operate correctly

On discovery of a fire:

1. Keep calm, shout 'fire' or raise fire alarm at once; (if any)
2. UNDER A SAFE CONDITION, try to extinguish the fire by fire-fighting appliance and to remove flammable substances or disconnect electrical appliances;
3. Inform the Site Supervisor and call the Emergency Team;

4. All persons should stop work immediately and evacuate form the scene and go to the Emergency Assembly Point;
5. Call Qatar Fire Service Department (999) if the fire is beyond control.

15. OCCUPATIONAL HEALTH

Project management will ensure that adequate Medical and Health resources, procedures, and controls are available for all project personnel. The emergency procedures produced for all phases of the project shall address medical emergencies.

PCS shall provide, at all times, a comprehensive medical care services for all employees.

During the construction and commissioning phases of the project the following types of occupational health and hygiene arrangements shall be developed.

- Hazard Communication including Material Safety Data Sheets (MSDS's), employee training, Non-Routine Tasks, and Informing Other Employees.
- Drinking Water and Eating Facilities;
- Sanitary Facilities;
- Prevention of Heat-related illness;
- Hearing protection;
- Respiratory protection
- Radiation safety, including control of radiographic testing.

Note: Proper medical attention shall be provided for all persons in need.

16. ENVIRONMENTAL MANAGEMENT SYSTEM

PCS management will comply with Project Environmental Management Plan, the guidelines & specifications of Project and Qatar Environmental Guidelines in all matters of environmental protection related to the execution of the client plant by exercising efficient environmental management.

PCS management will ensure that environmental aspects are identified and evaluated for the activities under their control, with the support of Project HSE Management. To monitor environmental impacts in the project construction and commissioning stages will appoint environmental coordinator/ HSE officer for the project.

Supervisors are responsible for notifying line management of any known changes to their activities that are likely to affect the register of aspects and impacts, and their significance evaluation.

16.1 HSE IMPACT ASSESSMENT

The HSE Impact Assessments will be carried out at the project in accordance with the client Code of Practice. HSE Impact Assessment is an independent assessment of the HSE impacts of project activities on employees, third parties, the public and on the environment. The purpose is to verify that HSE issues are satisfactorily addressed during construction and commissioning phases of the project. HSE impact assessment shall be done by concerned Contractors and Sub-contractors.

16.2 ENVIRONMENTAL AWARENESS

- PCS will have the objective that environmental awareness will be built up through HSE meeting and notices and priority given to environmental protection.
- This will also be implemented by managing hazardous and non hazardous wastes**.**
- Accounting for spillages or discharges, handling of combustibles etc. refer QCS 2014.
- Managing chemicals with Material Safety Data Sheet.
- Training of personnel those who work with chemicals (if any) in relation to their specific hazards by competent PCS / Third-party trainer.
- PPE requirement are identified for handling chemicals, spills, and waste material.
- PCS will follow the sewage disposal from temporary facilities as per QCS 2014 guidelines.

16.3 MONITORING AND RESTORATION

Environmental management systems will be monitored by conducting regular audits, inspections and impact assessments, awareness trainings etc.

The following control measures will be adopted:

Sr. No.	Control measures for wastes	Details of wastes	Action by	Frequency
1	Housekeeping & clean-up	Camp waste Food waste	Camp boss	Every day

2	Spill & environmental incident	-	HSE Site personnel	As Applicable
3	Waste oils, fuels, tires & batteries disposal.	Equipment/ Workshop	Maintenance in-charge / HSE officer	As needed
4	Environmental assessment	Environment affected by wastes chemicals	HSE officer	As needed
5	Environmental awareness	-	HSE officer	Monthly

16.4 WASTE MANAGEMENT

PCS will ensure proper waste management systems at workplace, camp and offices based on waste management procedure. The waste management procedure incorporates the safe handling, storage, collection and disposal of wastes and encompasses the handling, storage, collection, removal transportation, required applications and permits, Hazardous communications and disposal of hazardous and nonhazardous wastes at inside and outside the project. Waste will be segregated as hazardous and nonhazardous and shall be disposed of separately. Records of all waste disposed of shall be maintained and made available on request.

16.5 SPILL PREVENTION AND RESPONSE

The PCS'S spill prevention and response procedure shall be implemented to minimize the risk from incidental losses of chemical liquids. Spill prevention and response addressed in QCS 2014 shall be followed. All diesel generated shall be equipped with drip trays. Diesel storage tank provided by Woqod shall be provided with bund. Drip tray shall be provided while refilling diesel in equipments.

16.6 HOUSE KEEPING PROCEDURE:

"PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE".

Housekeeping indicates the culture of the organization.

PCS will ensure good housekeeping practice at workplace, office and camps based on housekeeping procedure.

The following shall be strictly observed:

- All supplies and materials shall be stored as not to create a tripping hazard or allowed to fall off.
- Roads and access ways shall be kept free from obstruction.
- Fire fighting equipments and exit routes shall not be blocked.
- Electrical cables shall not be laid on ground. It will be laid above ground over wooden supports of height not less than 2M.

Benefits of housekeeping:

- Reduction in incidents/accidents (Slip/Trip/Falls)
- Reduction in illness cases and absentism
- Increase in production
- Boosts morale of workers

17. AUDITING AND REVIEW

Corporate QHSE Manager is responsible for planning and organising Audits.

PCS has established and will maintain an audit program based on audit procedures in order to determine whether or not the HSE management system:

- Conforms to planned arrangements for HSE management including the requirements of this specification;
- Has been properly implemented and maintained; and
- Is effective in meeting the PCS's policy and objectives
- Review the results of previous audits;
- Provide information on the results of audits to management.
- Confirm its suitability and applicability.

The audit procedure has covered the scope, frequency, methodologies and competencies, as well as the responsibilities and requirements for conducting audits and reporting results.

PCS management accepts auditing is an essential element of an HSE management system. Management is fully committed to the concept of auditing and its effective implementation within the organization. This includes a commitment to consider audit findings and recommendations and to take appropriate action as necessary, within an appropriate time. Management must recognize that once agreed that an audit will be carried out it must in an impartial way.

The followings are the objectives of the HSE audits system, but not limited to:

a. Planned audits of the HSE System shall be carried out by internal personnel, to establish the degree of compliance with the documented Health, Safety and Environmental Procedure, and whether the system is effective in meeting the HSE objectives of the organization.

b. The annual HSE plan shall include a schedule for carrying out internal safety audits. The audit should cover the entire operation, which is subject to the HSE management system, and assess compliance with this specification. In general, HSE audits need to consider overall policy and procedures, and the conditions and practices in the workplace.

c. Audits shall be carried out according to a written procedure, and only by competent, trained personnel. The results of the audits to be recorded and corrective action taken, where necessary.

d. PCS shall evaluate HSE programs in order to:

- Maximize learning;
- Ensure that appropriate action is taken to improve the control of specific risks;
- Improve overall HSE performance;
- Further develop HSE policies and procedures.

e. All relevant personnel must be informed of the purposes of auditing and the benefits. Employees must be encouraged to co-operate fully with the auditors and to respond to their questions honestly.

1. HSE auditing can involve a combination of: e.g.
    - Contractor
    - Sub-Contractor

a. The results of all audits and inspections shall be fed back to all relevant parties as soon as possible to allow corrective actions to be taken.

2. As many employees as possible including the Safety, Health and Environment Representative where selected, should be consulted on activities in their area during each audit/inspection.

3. Audits provide a comprehensive and formal assessment of PCS's compliance with HSE procedures and practices. The end result of a formal audit must include a detailed written assessment of HSE procedures, the level of compliance with procedures and practices, and where necessary identify corrective actions.

4. A programme of auditing should be prepared and made available to management as well as other role employees. In determining a suitable

frequency of auditing some of the factors that may need to be taken into account include:

- The nature of the hazards;
- An adverse audit or incident record;
- Any legislative requirements.

5. One or more persons may undertake audits. A team approach may widen the involvement and improve co-operation. External or internal auditors may be used. In either case, they must preferably be independent of the part of the organization or the activity that is to be audited.
6. Auditors shall understand their task and be competent to carry it out. They need to have the experience and knowledge of the relevant standards and systems they are auditing to enable them to evaluate performance and identify deficiencies.
7. Auditors shall be familiar with the requirements set out in any relevant legislation. In addition, auditors must be aware of and have access to standards and authoritative guidance relevant to the work they are engaged in.
8. The techniques and aids used in the collection of the information depend on the nature of the audit being undertaken. The audit shall ensure that a representative sample of essential activities is included in the audit and various personnel interviewed. Relevant documentation should be examined and include:
   - HSE management system documentation;
   - Safety statement;
   - HSE and emergency procedures;
   - Permit to work systems and procedures;
   - Minutes of HSE meetings;
   - Accident/incident reports and records;
   - Any reports or communication from the enforcing authority (verbal, letters, notices, etc.)
   - Statutory registers and certificates;
   - Training records.
   - Security
9. At the end of the audit, the auditor or audit team must summarize and feedback their initial findings to the manager responsible and in particular,

draw attention to any issues that are of such significance as to necessitate immediate action.

10. Audit reports must contain information which addresses:
    - Conformity and non-conformity of the HSE management system elements and specified requirements;
    - Effectiveness of implementing the HSE management system in meeting objectives and targets.
    - Implementation and effectiveness of any corrective actions from previous audits.
    - Conclusions and recommendations.
11. The audit report must assess overall performance, identify, any inadequacies and make recommendations and action for improvement.
12. Follow-up monitoring arrangements shall be established to ensure satisfactory implementation of the recommendations.

18. MANAGEMENT REVIEW

PCS Management is responsible for organizing and conducting Management Review. PCM is responsible for leading the management review of the HSE performance of this contract. He shall review HSE performance once in three months along with project management team.

18.1 OBJECTIVES OF MANAGEMENT REVIEW

- Assess the effectiveness and adequacy of the ensuring HSE management system of PCS and subcontractors.
- Identify the weak elements where additional input needs to involve improving the performance.
- To evolve continual and sustainable improvement in HSE performance.

18.2 SCOPE OF REVIEW

The following areas identified as critical activities for review and key result will be documented:

- Recommendation made by audit team
- Recommendation made by incident investigation teams.
- Fulfilment of the PCS 's commitment to HSE
- To identify the effectiveness of HSE policy and objectives.

- Review HSE policy.
- To verify adequacy of resources allocated for HSE management
- Achievement of target and need additional input.

18.3 REVIEW COMMITTEE

The review committee will consist of:

- Top Management
- PCM
- QHSE Manager
- PCM
- PCS committee members

18.5 REVIEW REPORT

The report will be documented by QHSE Manager and will be reviewed half yearly for further action for continual improvement. Document the result of review

- Identify the element that has weakness to initiate concentrated efforts for improvement.
- Propose remedial actions and fix up responsibility for implementation with target dates.
- Identify the need for any revision, modification or change in the HSE plan
- Objectives or procedure Required for improved result

19. HSE PROCEDURES

PCS's Health, Safety and Environment (HSE) Procedures provides presentation of HSE Management Systems and all safety performance.

PCS commitment to HSE requires that their operations be conducted in such a way as to preserve the health and safety of their employees, plant operators and the general public and to give due regard to the protection of the environment.

The highest standards in health, safety and environmental preservation and protection which PCS's HSE Corporate Policy requires be met, can only be achieved through a systematic approach to the establishment, implementation and maintenance of an HSE Management System designed to ensure, as a minimum, compliance with the laws and project requirements and to achieve continuous performance improvements.

PCS's HSE Management System is integrated into each functional area of operations and consists of comprehensive, proven policies, procedures, standards and processes which define responsibility, activities and methods for identifying, understanding and controlling hazards and for eliminating preventable incidents that might lead to injuries to persons or damage to the environment.

PCS's Health, Safety and Environment (HSE) Procedures provides a brief presentation of HSE Management Systems and presents safety performance.

19.1 HSE PROCEDURES OBJECTIVES:

To ensure that the employees to know the followings but not limited to

- Method of doing the job.
- The steps in the task.
- The tools and equipments to be used in the task.
- The hazards in each step in the task.
- The safety considerations in each step.
- The personal protection to wear.

19.2 PERMIT TO WORK PROCEDURE:

The purpose of the internal Permit to Work System is to ensure that a safe working environment is achieved by providing management controls over the various activities which may have hazardous interactions. The system provides a formal and controlled process that identifies and communicates risks and hazards associated with planned activity and ensure that appropriate precautions and measures are implemented so that the job can proceed and be completed safely. It is an important that a Permit to Work is not a permission to carry out a hazardous job but is an essential part of a procedure that provides instruction on how to carry out a hazardous job safely and in a managed and controlled way. The procedure has three key features.

- It allows those responsible for overall site safety to be aware of the various hazardous activities and to take a systematic overview which identifies interactions and allows priorities to be set for conflicting work tasks

- It limits the potentially harmful effect of the actions of the person doing the work by specifying safety precautions and setting limits to the duration and extent of the work
- It encourages formal and careful attention to safe systems of working by requiring the signature of specified individuals who must confirm that all hazards have been identified and effective precautions taken.

All the personnel will be briefed about PTW systems in the induction session and Specific training to concerned supervisors will be provided by PCS.

19.3 PERSONEL PROTECTIVE EQUIPMENT PROCEDURE:

PCS will provide all employees with the necessary protective equipment and clothing, suitable for the type of work they are to perform. Such equipment includes, but not limited to hard hats, safety goggles for eye protection, safety shoes, respiratory equipment and hearing protection as applicable. Each Supervisor will verify that the required Personal Protective Equipment (PPE) is provided to and worn by all personnel.

Mandatory PPE at site: All project employees as well as visitors to the site will be provided with the below mandatory PPE and they shall be worn to enter the site.

1. Safety Shoe
2. Hard hat
3. Safety Goggles
4. Reflective vest.

Coveralls shall be provided to all workers and is mandatory to wear before entering site gate.

SUITABILITY AND SELECTION OF PPE:

SELECTION CRITERIA:

PPE shall be suitable for the degree of protection which it is required to provide. In particular, PPE shall not be considered suitable unless

- It is appropriate for the risk involved.
- It is appropriate for the conditions at the place where exposure to risk may occur.
- It takes account of ergonomic requirements.
- It takes account of the state of health of the person wearing it.
- It is capable of fitting the wearer correctly.

- It is effective in controlling the risk involved without increasing the overall risk.

All PPE shall be of the appropriate standard and shall conform to an internationally accepted standard.

19.4 HEAT STRESS PREVENTION PROCEDURE:

Heat stress and heat stroke may occur anytime work is being performed at elevated temperatures or when specialized protective clothing (e.g., welding suite) is worn. Heat stress symptoms include fatigue, irritability, anxiety, and decreased concentration, dexterity, or movement. If the body's physiological processes fail to maintain a normal body temperature because of excessive heat, a number of physical reactions can occur ranging from mild to fatal. Because heat stress is one of the most common and potentially serious problems that workers may encounter, regular monitoring and preventive measures shall be implemented.

The following heat-related illness preventative measures will be implemented on the project:

- Workers will be urged to drink maximum amount of water before beginning work in the morning and throughout the day;
- Workers will be urged to drink sufficient quantity of water per day;
- Shaded areas will be provided for rest breaks;
- If necessary, workers will be acclimated to plant works conditions by slowly increasing their workloads (i.e., do not begin work activities with extremely demanding tasks);
- Initial and on-going training shall be provided regarding heat stress recognition and prevention;
- Supervisors and employees shall monitor themselves as well as their employees and co-workers for the signs of heat stress, if symptoms are detected proper medical evaluation and care will be provided immediately;
- Consumption of alcohol during non-working time and intake of coffee during working hours will be discouraged; and

HEAT STRESS PHYSIOLOGY:

Normal Response to Excess Heat

1. Peripheral vasodilatation (reddened skin) - The skin becomes a radiator and the heart rate increases to move blood more rapidly to the skin for cooling.
2. Body surface temperature increases slightly.
3. Sweating increases to provide evaporative cooling.
4. Acclimatization occurs over a few weeks.

Heat Illnesses:

Heat Fatigue:

A predisposing factor of heat fatigue includes the lack of acclimatization.

Heat Rash ("Prickly Heat"):

Heat rash is the most common heat-related problem in the work environment. Inadequate personal hygiene is often an underlying cause. Continuous sweating may irritate skin and sweat glands may become obstructed and inflamed. The condition often occurs in areas where the clothing is restrictive.

Heat Cramps:

Heat cramps commonly result from performing hard physical work in a hot environment. These cramps are attributable to the loss of body fluids and salt that occurs with profuse sweating, however inadequate fluid and salt intake can also cause heat cramps in the absence of sweating or hard work.

Heat Syncope/Collapse (Fainting):

This condition is caused by prolonged standing, particularly in one spot, while under heat stress. Inactivity can result in excessive pooling of the blood in the extremities, thereby depriving the brain of sufficient oxygen. Consequently, the exposed individual loses consciousness (faints). For prevention, workers should become heat acclimated and avoid prolonged standing in hot weather.

Heat Exhaustion:

This is caused primarily by a loss of body fluid, with some loss of body salts due to increased sweating. (Diarrhea and vomiting both also contribute to dehydration.) Heat exhaustion is similar to heat syncope in that strenuous exercise causes peripheral vasodilatation, which reduces blood flow to the brain.

Do not dismiss heat exhaustion lightly. It is possible to confuse the symptoms of heat exhaustion with heat stroke which is a bona fide medical emergency. In addition, fainting can be dangerous if the individual is operating machinery or controlling an operation that should not be left unattended. Moreover, fainting may injure the victim.

Heat Stroke (Life Threatening Emergency):

Heat stroke occurs when the body's system of temperature regulation fails suddenly and the core temperature rises to critical levels. It is caused by a combination of highly variable factors that result in intolerable heat stress, and is often difficult to predict. Drug and/or alcohol abuse may increase the risk of heat stroke.

Individuals who recover from true heat stroke may suffer from permanent physical damage including reduced heat tolerance. These individuals should be carefully evaluated by a competent physician before returning to a job with potential heat stress. Special accommodations to control heat stress may be required for these individuals in order for them to work safely.

Factors Affecting Heat Tolerance:

Physiological Characteristics (listed in no particular order):

Acclimatization State - Is the worker currently acclimated? Heat acclimatization may be reduced when an individual is removed from heat exposure for even a few days.

General Physical Fitness - For any work level, the upper limits of heat tolerance are reduced for the physically unfit.

Medical History - A history of heat intolerance, non-acclimatability, or incidence of heat stroke may help predict susceptibility to future heat stress conditions.

Obesity - Fat is an excellent insulator. Obese individuals generally have a lower heat tolerance than lean individuals.

Hypertension - Some studies indicate even moderate hypertensive exhibit reduced heat tolerance.

Organic Heart (heart structure) and/or Vascular Disease - These problems may interfere with an individual's ability to shed excess body heat.

Respiratory Disease - Chronic obstructive pulmonary disease may limit heat tolerance as a function of the seriousness of the disease.

Previous Thermal/Chemical Injury - Individuals who have suffered thermal or chemical burns often have skin conditions that interfere with the body's cooling process and adaptation to heat, thus increasing susceptibility to heat stress.

Skin Disease - Some skin diseases interfere with the sweating process and heat transfer.

Infection - The body's response to infection can include fever and fatigue.

Pregnancy - Pregnancy puts additional stress on the individual.

Dehydration - Since many heat-related conditions are due to dehydration, a pre-existing state of dehydration will obviously increase susceptibility to heat stress.

Diarrhea - This condition can lead to dehydration and may itself be a symptom of an underlying medical problem.

Age - Heat tolerance may begin to decline in persons over 50 years of age, due to a sluggish sweat gland response.

Nutrition - Individuals who are not maintaining a balanced diet may have a reduced capacity for performing work and exhibit reduced heat tolerance. Poor nutrition may be the result of illness, stress, dieting to achieve weight loss, etc.

Lack of Sleep - Fatigue can reduce the body's ability to respond to heat stress.

Sex - The only difference appears to be the generally lower aerobic capacity of women and small men compared to average size men.

Inadequate Mental Capacity - Be sure that all individuals are capable of understanding heat-related hazards and preventive measures.

Inadequate Ability to Communicate - Be sure that all individuals are capable of describing the symptoms of heat-related illnesses to a co-worker or supervisor.

Working Immediately After Eating - Having food in the stomach diverts some blood from the periphery to the body core.

External Agents Affecting Heat Tolerance

Alcohol - The ingestion of alcohol before or during work causes peripheral vasodilatation and increases heart rate, thereby reducing heat tolerance.

Illegal Drugs - Many of these substances alter behavioral functions, have serious effects on the central nervous and cardiovascular systems, and affect good judgment, all of which could increase the risk for a heat-related disorder to occur.

Prescription and Over-the-Counter Drugs - There are numerous legal drugs that may limit heat tolerance. Before taking any medicines, employees should consult with their physician regarding any potential effect on heat tolerance. Many of the following drugs can affect heat tolerance: diuretics, vasodilators, central nervous system inhibitors, beta blocking agents, antihistamines, muscle relaxants, amphetamines, atropine, and tranquilizers. Other drugs not mentioned here may also affect certain individuals.

Effective Proactive Measures

Anticipate high heat days through weather forecasts and prepare for them with proactive measures. The following are a few recommendations to aid in the prevention of heat related problems.

i. Begin drinking fluid early in the day. Waiting until the hottest portion of the day to replenish fluids is too late. Avoid caffeine and alcohol the night before and during the day.

ii. Dress for conditions. Lightweight, loose clothing is best. Avoid layering clothing underneath coveralls.

iii. A well-balanced diet will help. Heavy, fatty foods do not support the body well in high heat conditions. Fruits, vegetables, proteins, and starches work best.

iv. Electrolyte solutions help to maintain energy levels. Do not drink more electrolyte solution than water. Avoid taking salt tablets unless directed to do so by your physician.

v. Use sunscreen and cover your face and neck from the sun.

vi. Provide shaded areas for mini-breaks and water stations.

vii. Make sure drinking water stations are accessible so employees may take frequent breaks.

viii. Strongly encourage SHORT (1-2 minute) water breaks every 20-30 minutes during high heat conditions.

ix. Provide specific areas for employees to go to on a schedule basis and cool off when working in full sun areas. This would be considered mandatory breaks (in addition to the short water breaks). This should be done every 1 to 1-½ hours.

x. Monitor work areas for ambient temperatures. Use the heat index chart to determine the apparent temperature. Areas with apparent temperatures over 35°C (95°F) should be monitored for personnel problems. Begin providing extra measures for the workers.

xi. Initial and on-going training shall be provided regarding heat stress recognition and prevention;

xii. If necessary, workers will be acclimated to Qatar works conditions by slowly increasing their workloads (i.e., do not begin work activities with extremely demanding tasks);

xiii. MOST IMPORTANTLY, do not let schedule or productivity influence awareness or caution in high heat weather. Pressure from foreman or self-induced pressure is the most dangerous hazard.

KEY POINTS POSTER:

(1) The emphasis of this program is on the prevention of heat stress.

(2) Prevention requires the full cooperation of workers, supervisors, and management.

(3) Appropriate, periodic training for all site workers should be provided at least annually.

(4) Pre task Briefing is used for evaluating and communicating task-specific heat stress conditions.

(5) Work Practices should include:

(a) Acclimatizing any worker who is unaccustomed to high heat conditions:

Day 1: 50% of normal workload Day 3: 80% of normal workload

Day 2: 60% of normal workload Day 4: 100% of normal workload

(b) Trained workers practicing self assessment of their own condition.

(c) Workers using the buddy system.

(d) Declaring a "Heat Awareness Condition" when extremely hot weather is predicted (listen to daily weather reports). Extremely hot weather:

Ambient temperature equal to or greater than 35°C

Heat Index (HI) or Apparent Temperature (AT) in excess of 32°C

(6) Engineering controls can include:

(a) ventilation

(b) air cooling and air conditioning

(c) heat shields and shade

(7) Factors that can affect an individual's heat stress include:

(a) acclimatisation state

(b) general physical fitness

(c) medical history

(d) obesity

(e) hypertension

(f) heart and vascular diseases

(g) respiratory diseases

(h) previous skin injury

(i) infection

(j) pregnancy

(k) dehydration

(l) diarrhea

(m) age

(n) nutrition

(o) alcohol intake

(p) legal and illegal drug use

(q) lack of sleep

(r) gender

(s) mental capacity

(t) ability to communicate

(u) working after eating

When a Heat Awareness Condition is declared:

- ☑ Schedule hot jobs for cooler times of the day or cooler seasons of the year.
- ☑ Drink 1 or 2 eight-ounce glasses of fluids before beginning work. Drink 1-2 cups of cool fluids, every 20-30 minutes afterwards, even if this is more than you are thirsty for. Water, electrolyte solutions, or a mixture of the two are acceptable. DO NOT drink caffeinated or alcoholic beverages.
- ☑ Re-emphasize the hazards and controls of heat stress during Pre task briefing.
- ☑ Use Check Times at regular intervals to determine whether each worker is experiencing symptoms of heat stress or diminished capacity.
- ☑ Provide shade over work and rest areas.
- ☑ Allow sufficient time for recovery from any heat stress symptoms.

EMPLOYEE PREVENTION INFORMATION AND TRAINING:

The HSE Induction training provided to all employees will explain the causes and symptoms of heat stress illnesses and injuries, minimum PPE requirements, the need to take regular breaks in cool shaded areas and the need to take regular intakes of cool water.

Heat stress awareness training should be provided at least once a year (preferably during the spring) to all Project and subcontractors personnel. This training should include:

(1) The hazards of heat stress

(2) Recognition of predisposing factors, warning signs, and symptoms

(3) First aid procedures for, and potential health effects of heat stroke and other heat disorders

(4) Employee responsibilities in avoiding heat stress

(5) Dangers of the use of drugs, including prescription and over the counter medicines, and alcohol in hot work environments

(6) Proper use of engineering and administrative (work practice) controls

(7) Proper use of personal protective equipment

(8) Measures employees can take to minimize the effects of heat stress (hydration, work pace, helpful nutritional habits, etc.)

(9) What to do during a Heat Awareness Condition

HEAT AWARENESS CONDITIONS

Heat Index	Heat Stress Level	Symptoms	Rest Period (every hour)
27-31	Green	Fatigue possible with prolonged exposure and physical activity	No rest
32-38	Orange	Sunstroke, heat cramps or heat exhaustion possible with prolonged exposure and physical activity	50 min working, 10 min rest
39-50	Red	Sunstroke, heat cramps or heat exhaustion likely. Heat stroke possible with prolonged exposure and physical activity.	40 min working 20 min rest
> 50	**Black**	**Heat Stroke or sunstroke imminent.**	**Stop all works.**

19.5 ROAD SAFETY / TRANSPORT MANAGEMENT PROCEDURE

PCS has developed Road safety management procedure for monitoring and implementing of internal and external road safety measures. The following are parts in the Road safety procedure but not limit to.

DRIVER'S SELECTION:

All the drivers will be selected on the basis of selection criteria and their physical, mental and driving experience and capabilities. Their qualities, experience and their maturity will be taken into consideration for their selection as drivers. Their ability to drive in Qatar and in the project area will also be considered.

DRIVERS INDUCTION AND INTERNAL TRAINING:

The drivers selected will possess a valid QATARI driving license. They will be given the HSE induction training and the information about the daily vehicle checks and their response to the emergency situations. Their deficiencies will be observed and corrected by HSE officer. All the drivers will be trained on safe driving in Fog.

VEHICLE SELECTION AND SPECIFICATION:

The right type, the capacity and size for the facilities will be borne in mind while selecting the vehicle for use, Tipper trucks, Water tankers and Plants will be deployed in this project as required.

Vehicles & Plants will be chosen based on the work requirement and manufacturer's specification. The necessary safety devices such as seat belts will be checked for their type of operation and dependability. The vehicle will be QATAR registered and will comply with QATARI laws and regulations.

VEHICLE MAINTENANCE:

Vehicle maintenance shall be carried out as per the scheduled program. The vehicle will be maintained road worthy and only the qualified mechanics will undertake the repairs. Only routine maintenance shall be performed at site and all specialized repairs to equipment and machinery shall be carried out by trained professional personnel approved by PCS. Work not deemed low risk shall be removed from the site. There shall be no tire repair, vulcanizing , welding on rims is banned from being performed on site and such repairs shall be removed from site. Daily vehicle checks will be carried out by the drivers either before commencing the journey or before going to work site.

DRIVER IMPROVEMENT PROGRAMS:

PCS ensure to carry out the following knowledge improvement programs for the drivers at frequent intervals

1. Drivers Forum
2. Driving Awareness Trainings

MOTOR VEHICLE AND PASSENGERS POLICY:

PCS employees and Subcontractors shall:

- Use of seat belts whenever, a PCS or a subcontractor vehicle is in motion.
- Observe and follow the posted speed signs and the road signs.

All PCS and subcontractor employees shall follow the Safety Motor Vehicle Policy. To comply with safety requirements and HSE standards, the PCS operates the following policy relating to the use and operation of vehicles.

PCS employees – use of personal restraints in vehicles (seat belts)

It shall be mandatory for all employees to:

- Secure themselves in the seat of any motor vehicle by means of the personal restraint (seat belt) provided, and in the way the personal restraint (seat belt) is intended by the manufacturer to be used, anytime the vehicle is in motion.
- All employees travelling in any vehicle on PCS business shall be restricted to occupying only those seats in the vehicle that have working personal restraints (seat belts).
- The driver of any PCS vehicle, (as per the definition above), shall be responsible for advising all passengers, regardless of status, to fasten the personal restraint, (seat belt), prior to the vehicle being driven.
- Drivers employed by PCS for the purpose of driving passengers to and from their required / requested locations shall not commence driving until all passengers have fastened their personal restraints (seat belts).

19.6 CONFINED SPACE ENTRY

The following requirements are applicable to all confined spaces permit:

- Confined spaces must be identified with a sign;
- Personnel entering into an Confined Space shall do so under PCS approved Confined Space Permit
- Personnel entering into a confined space shall be specialty trained on the safety technical issues;
- Confined space attendants shall be specially trained as attendants and shall be 100% dedicated to this work activity whilst personnel are inside the confined space, if the attendant has to leave, he has to appoint another trained attendant and to brief him in all measures.
- A Log In/Out System shall be implemented according to the confined space permit requirements.
- Ventilation and lighting shall be established as necessary to achieve and maintain a safe and healthy working environment based on monitoring parameters applicable to the specific confined space activity;
- Atmosphere monitoring prior to entry and potentially continuous monitoring shall be performed based on the specific risks associated with the confined space situation;

- Personnel assigned for gas testing duties shall be designated as a competent person for this duty;
- Oxygen concentration shall be maintained between 19.5 % and 22.0 % and work shall not start or shall cease if the oxygen is outside the limits;
- Lower Explosive Limit (LEL) shall be maintained at <10% at all times;
- Toxic gas shall be monitored and maintained according to OSHA safe exposure limits, according to the specific confined space scenario;
- Particular emphasis will be paid to monitoring of excavations prior to entry due to the potential for gradual H2S accumulation in excavations;
- Means of continual communication between confined space entrants and attendant shall be provided;
- Emergency measures shall be established for personnel removal prior to confined space permit approval (as necessary);
- Entry of pressurized cylinder bottles is prohibited unless specific control measures are implemented and prior approval is granted from the QHSE Manager;
- A period of non-entry for more than 30-minutes requires re-inspection and re-monitoring of confined space area by HSE personnel prior to re-entry;
- PCS has the authority to remove the permit and stop the confined space work;
- Work activity under an Immediately Dangerous to Life and Health (IDLH) situation shall not be undertaken without in-depth planning and additional employee training;
- In pre-determined confined-spaces, electrical current may need to be subject to a step-down process to 50v for lighting;
- The use of “direct air” systems or SCBA Equipment is prohibited without planning and additional employee training;
- All breathing air systems shall use Grade “D” definition for breathing air; and
- General air compressor shall not be used for breathing without the following:
  - Oil/mist knockout/filter drum
  - CO/H2S removal system/H2S monitoring at source.

16.4 HAND AND POWER TOOLS AND EQUIPMENT

- All power tools and power equipment shall be fit for service per the manufacturer's requirements.
- PCS shall implement a program of inspection that includes colour coding.
- All pneumatic or hydraulic tools or equipment shall be fully inspected for proper hose connection and condition of hose. Rated hose per industry requirements and specifications are required.

Hand Tools:

- Select the correct tool for the job.
- Box or Socket wrenches should be used in preference to adjustable or open-end wrenches Inspect tool before use.
- Do not use damaged tool.
- The greatest hazards posed by hand tools result from misuse and improper maintenance.
- All hand tools shall be maintained in good condition. Any defects shall be reported, and tool shall be repaired or withdrawn from service.
- Pipe wrenches should have sharp jaws and be kept clean to prevent slipping. A wrench, including adjustable, pipe, end, and socket wrenches shall not be used when jaws are sprung to the point that slippage occurs.
- Impact tools, such as drift pins, wedges, and chisels, shall be kept free of mushroomed heads.
- The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.
- Saw blades, knives, or other tools be directed away from aisle areas and other employees working in close proximity. Knives and scissors must be sharp. Dull tools can be more hazardous than sharp ones.
- In highly inflammable atmosphere, spark-resistant tools made from brass, plastic, aluminum, or wood should be provided for safety.

Storage:

- All tools shall be kept in safe working condition.
- Tools shall be organized in a store designated for the purpose. The store shall have provision for suitable storage racks and or bins. All such stored tools shall be kept clean and protected against corrosion and damage.

- For maintenance details of specific equipment, refer to the relevant maintenance procedure covering the specific equipment and subject.

Transportation of Tools:

- The carrying of tools should be in line with safe working practices such as a leather belt and or a toolbox or pouch specifically designed for such a purpose.

Electrically Operated Power Tools:

- All electrical power operated tools should be of the double insulated type or grounded correctly.
- All power tools shall be maintained in good condition. Any defects shall be reported and tool shall be repaired or withdrawn from service.
- The operator must read and understand the manufacturer's manual/instructions.
- Portable test instruments should be in good condition, and scheduled inspections shall be carried out once in a month.
- Tools should not be left in an unmanned overhead place where there is a potential for the cable to be pulled or vibration causing the tool to be dislodged and therefore falling to the ground possibly causing injury to a person or damage to the equipment.
- Power tools should be disconnected from their power source before carrying out any repairs or adjustments.
- Check the manufacturer's instructions for each power tool before initial use. Electrical power supply to tools being used on the plant shall be 110 V.
- 230 V/110 V isolating transformers shall be used when there are no 110 V power supplies available at work location.
- The voltage of electrically powered tools, being used in confined spaces, shall not exceed 24 Volts.
- Spark free/intrinsically safe tools should be used whenever working in/on equipment that does/has contained explosive/flammable material.
- Insulated tools should be used whenever work is being carried out on electrical equipment.

- When working above ground level extra precautions should be taken with consideration being given to the connection of the tool(s) to a safety line to prevent fall to the ground.
- Instruments that are used to test equipment should have their calibration checked and re-validated by a third part inspection as per the manufacturers' recommendations.
- Test clips and probes are potentially dangerous devices and must be used with utmost caution. When checking high voltage circuits, the meter should be placed on a firm stand and connected and disconnected with the circuit de-energized. A test instrument or leads should never be in contact with the body.
- GFCI shall be provided on electric supply to all potable electrically operated tools.
- Never use a portable electric tool in the presence of flammable vapours, gases or oxygen enriched atmosphere.
- Hand-held electrical tools must be equipped with a dead-man switch or quick-release control, so that power is shut off automatically whenever the operator releases the control button/lever.
- All portable tools must be tested and inspected by a competent electrical or mechanical maintenance person when first received at site and results recorded. Further inspections shall be carried out once per month. Tools that are not fit for the purpose, regardless of reason, should be withdrawn from service immediately, tagged accordingly and informed to the relevant responsible person.
- Wear proper apparel. Do not wear loose clothing, dangling objects or jewelry. Long hair must be restrained. Gloves should not be worn when operating certain power tools.
- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- All observers should be kept at a safe distance away from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Workers should not hold a finger on the switch button while carrying a plugged-in tool.

- Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance.
- Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage.

Portable Abrasive Wheels:

- All abrasive wheels shall be closely inspected and "ring tested" before mounting to ensure that they are not defective (lightly tap the wheel with a non-metallic device). Undamaged wheel will produce a clear ring; a cracked or damaged wheel will sound dead or dull. Should the ring test identify a defective wheel, the wheel shall be withdrawn from service immediately and the relevant responsible person informed.
- Portable abrasive wheels shall be guarded to allow a maximum exposure angle of 1800. The guard must be located between the operator and the wheel during use and must be adjustable and capable of deflecting any fragments of material away from the operator.
- No abrasive wheel shall be used on any grinding machine or driver in which the rated speed of the equipment exceeds the rated speed of the abrasive wheel as established by the manufacturer. Grinding machine spindles or drivers must be speed tested periodically to ensure the manufacturer's rated speed is not exceeded.
- Cutting wheel should never be installed on portable grinder.

Portable circular saw:

- Among professionals, the circular saw is probably the most commonly used power saw and perhaps the most commonly abused.
- Do not be careless while using circular saw. It can cause serious accidents.
- Don't use a circular saw that is too heavy for you to easily control.
- Be sure the switch actuates properly. It should turn the tool on and return to the off position after release.
- Use sharp blades. Dull blades cause binding, stalling and possible kickback. They also waste power and reduce motor and switch life.
- Use the correct blade for the application. Check this carefully. It should be of the proper size and shape arbor hole. The speed marked on the

blade should be equal to or higher than the no-load RPM on the saw's nameplate.

- Check whether the blade guard working or not. Check for proper operation before each cut. Check often to ensure that guards return to their normal position quickly. If a guard seems slow to return or hangs up, repair or adjust it immediately. Never defeat the guard to expose the blade by, for example, tying it back or removing it.
- Before starting a circular saw, be sure the power cord and extension cord are out of the blade path and are long enough to freely complete the cut. Keep aware of the cord location. A sudden jerk or pulling on the cord can cause loss of control of the saw and a serious accident.
- For maximum control, hold the saw firmly with both hands after securing the workpiece. Clamp workpieces. Check frequently to be sure clamps remain secure.
- Avoid cutting small pieces that can't be properly secured and material on which the saw shoe can't properly rest. Never hold small piece in hand and try to cut.
- When you start the saw, allow the blade to reach full speed before contacting the work piece.
- When making a partial cut, or if power is interrupted, release the trigger immediately and don't remove the saw until the blade has come to a complete stop.

Portable Power Drills:

- Portable power drills are available in a variety of types and capacities. They are undoubtedly the most used power tools.
- Check carefully for loose power cord connections and frays or damage to the cord. Replace damaged tool and extension cords immediately.
- Be sure the chuck is tightly secured to the spindle. This is especially important on reversible type drills.
- Tighten the bit securely as prescribed by the owner/operator's manual. The chuck key must be removed from the chuck before starting the drill. A flying key can be an injury-inflicting missile.
- Check auxiliary handles, if part of the tool. Be sure they are securely installed. Always use the auxiliary drill handle when provided. It gives you more control of the drill, especially if stalled conditions occur. Grasp the drill firmly by insulated surfaces.

- Always hold or brace the tool securely. Brace against stationary objects for maximum control. If drilling in a clockwise -- forward -- direction, brace the drill to prevent a counterclockwise reaction.
- Don't force a drill. Apply enough pressure to keep the drill bit cutting smoothly. If the drill slows down, relieve the pressure. Forcing the drill can cause the motor to overheat, damage the bit and reduce operator control.

Pneumatic Power Tools:

- Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders.
- A tool retainer shall be installed on each piece of utilization equipment, without such a retainer, may eject the tool.
- Hose and hose connections used for carrying compressed air to utilization equipment shall be designed for the pressure and service to which they are subjected.
- Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.
- A quick disconnect (also called as quick release coupling) is allowed, provided it requires a deliberate action to connect and disconnect. Safety clips or retainers shall be securely installed and maintained.
- Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.
- All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 p.s.i. pressure at the tool shall have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.
- The manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.
- The use of hoses for hoisting or lowering tools shall not be permitted.
- Screens must be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.
- Compressed air guns should never be pointed toward anyone. Users should never "dead-end" it against themselves or anyone else.
- Never kink the hose as a shortcut! Kinking the hose may damage or even rupture the air hose.

- Maintain a clean, dry, regulated source of air to operate air tools at peak performance. Filters, regulators, and lubricators should be used to keep the air system working at its best.

16.5 WORKING IN EXCAVATION:

The following shall apply towards "Excavation of the / CLIENT plant site" in any circumstances:

- Under no circumstances shall any personnel "will execute the excavation works in the Project site " without HSE Department approved excavation certificate; and
- The following items shall be addressed in excavation certificate system:
  - Spoil placement,
  - Excavation method,
  - Approved excavation and shoring drawings (if applicable),
  - Access and egress points for personnel and equipment,
  - De-watering techniques (if necessary),
  - Excavation should be safe for working, and
  - Daily inspection method and documentation including monitoring at 1.2-meter depth intervals for H2S and other potential gases trapped within the soil being removed.

Potential hazards in Excavation:

1. Underground buried hazards as Utility pipelines, Gas pipelines and Electrical cables etc.
2. Oxygen deficiency concentration below 19.5% or above 23.5%
3. Toxic gases like carbon monoxide, H2S, Welding or cutting fumes and enrichment of carbon dioxide and other combustible gases like Acetylene, Propane, etc.
3. Fire hazards from the hot work activities in excavation.
4. Water accumulations / flooding
5. Atmospheric hazards
6. Cave in
7. Fall of person / material / vehicle
8. Heat stroke

General:

Apparently, excavation looks to be a safe place to work and many people do not

take hazards of excavation seriously. Cave in is most common hazard and proper precautions should be taken to safeguard employees.

Safe Systems of Work:

The following precautions must be taken before carried out work in excavation.

1. Obtain the Excavation Permit with clearance certificate from Technical or concerned department to ensure the area free from any underground hazards e.g. Utility pipelines, Gas pipelines and Electrical cables etc.
2. Check that the excavation has proper sloping / benching or shoring.
3. Excavation is hard barricaded.
4. Safety signs and flashing lights should be provided.
5. Materials should be stored min. 1.5M away from the edge of excavation.
6. Vehicle movement is not allowed at 1.5 M from the edge of excavation.
7. Proper access is provided for entry and exit in case of emergency. E.g. ladders
8. For long excavations ladders should be provided at every 30 ft.
9. Ladders should be properly fixed and should extend 1M above the ground.
10. Dewatering facility should be made available.
11. Water should be collected into a tank and should not be allowed to flow on site.
12. Banks man should be provided for excavating with the help of machinery.
13. Rest areas should be provided, and persons should be allowed to take rest 10 min/hour after working under hot sun.
14. Drinking water should be made available at rest areas.
15. Gas testing should be done if excavation is deeper than 1.5 and there is a possibility of hazardous gases. E.g. H_2S, Hydrocarbons.
16. Other precautions depend on type of work being performed in excavation.

19.9 HOUSEKEEPING

- Housekeeping is an area requiring management attention.
- PCS shall review all housekeeping conditions and develop a system to ensure control and maintenance. It is understood and shall be enforced that the individual employee has the first line responsibility toward daily clean up of their work area.

- PCS Management shall monitor the execution of this process daily for compliance.
- All waste shall be segregated into disposal classes based on the requirements of the Project Environmental Management Plan.
- At no time shall waste of any material be allowed to accumulate in work areas.
- Waste shall be collected and removed from the Project daily.
- Waste containers labelled for waste segregation shall be located at designated places.

19.10 WELDING, CUTTING AND COMPRESSED GAS CYLINDERS:

The following requirements shall apply to Compressed Gas Cylinders, and Welding:

- This activity requires a Hot Work permit based on individual work activity;
- All requirements of hot work permit shall be enforced for this activity;
- All hoses/cutting torches/pressurized cylinders shall be inspected before entry into the project Site;
- All cylinder bottles shall be maintained in a carrying cart with chain or suitable object to hold cylinders;
- Storage of Acetylene and Oxygen cylinders shall be stored outside of the construction area;
- Storage of Acetylene and Oxygen cylinders shall be stored at a minimum distance of 20’ (6 meters)
- Protective caps or other devices shall be used to protect cylinder stem;
- All pressure gauges shall be in working order and tape shall not be used to hold back plate in-place;
- All cylinder cutting/heating torch arrangements shall have an approved “flash back arrestor” and non return valve installed
- Acetylene shall not be pressurized above 15 psi. due to instability;
- All pressurized bottles shall be maintained in an up-right position;
- Acetylene bottles shall never be laid down on side;
- Containment of sparks and weld slag is critical and will be monitored for compliance during daily HSE inspections;

- All hot work involving the production of sparks or weld slag shall be fully contained by the use of a fire blanket material;
- Cutting shade glasses with a standard rating shall be used during all cutting activities;
- All welding activities shall be carried out under the following criteria
- All welding machines shall be inspected before entry in the project;
- Welding machine DC circuit shall not be grounded to pumps or motors;
- Welders shall use a suitable approved welding hood and hard hat attachment during work operations;
- Cables and welding rod holders shall be free of cuts and splices;
- Welding cables shall be maintained as close as possible to welding machines;
- Welding rod holders shall have adequate grips and rubber insulation on handles;
- Homemade type connections are not allowed; and
- Use of AC Outlet shall require inspection for a functioning ELCB unit.
- Grinding must be performed in the covered or isolated area with fire blankets.
- Grinding machines must inspected and color coded before use, ensure that machine guard is in place, double insulated and dead man switch available.
- Disc mounting on grinding machine shall be done by competent person who is trained properly. Proper tools to be used to remove or install the grinding or cutting wheel (disc).
- Disconnect power supply before replacing a grinding disc.
- Inspect grinding disc for any cracks or damage before reinstalling it. Check disc rpm marked on it. (Disc rpm should be always higher than the grinding machine rpm.)
- Power cables shall be used accordingly machine power capacity.
- Properly trained and competent person is only allowed to operate the grinding / cutting machine.
- Competent personnel only can attempt the repairs. In case any abnormal condition is observed in the machine, immediately send it for repairs.
- Make sure that machine with dead man switch is available for all portable grinding or cutting machines.

- Machine handle should be always in place. Do not remove it for any reason without approval from authorized person.
- Do not keep any combustible material in the vicinity of heat or sparks generated by hot work.

19.11 LIFTING AND RIGGING PRACTICES

The following requirements shall apply to site work activities:

- HSE personnel shall inspect all rigging gear for compliance with the Common industry practices.
- Lifts classified as "Critical" shall be performed in accordance with Common industry practices , Construction Rigging Work Operations
- Use of Crane-suspended man-baskets should be avoided to the maximum extent possible; however, if crane-suspended man-baskets must be used, the activity will be performed in accordance with client standards
- All personnel assigned as "riggers" shall be competent and experienced, certified having Client endorsement;
- 3/8-inch steel wire chokers shall not be used;
- All synthetic/wire slings/shackles shall have certification from either the manufacturer or an independent client approved inspection agency.
- Lifts shall have at a minimum tag line attached and used to prevent lateral movement;
- Tag lines shall be of manila role – 10' minimum length – 1/2'" minimum diameter or equivalent;
- The practice of "Christmas treeing" (Multiple pieces of material (lifts) from one common wire rope sling) is prohibited;
- Homemade rigging apparatuses are prohibited;
- Bull dog clips used for lifting is prohibited;
- Required safety hooks shall be in-place and functional on all lifting gear;
- Chain falls shall be properly lubricated and not rusty;
- Rigging gear will not be down rated in lifting capacity if found deficient;
- Steel wire chokers shall be inspected for broken wires and use industry practice of ratio per lay as parameter;
- A minimum clearance between an electrical line rated 50 kV or less and any part of a crane or lead shall be a minimum of 10 feet; and

- A minimum clearance between an electrical line rated over 50 kV and any part of a crane or lead shall be a minimum of 10 feet plus 0.4 inches for each kV over 50 kV.

NIGHT LIFTING ACTIVITIES REQUIRE THE FOLLOWING:

- As far as possible lifting activities in night shall be avoided. If lifting in night is unavoidable proper permission from client MR shall be taken prior lifting.
- Crane block shall have florescent paint or tape applied,
- Area from and to the load being lifted shall be lighted to requirements,

Man basket:

- Man basket should have valid third party test certificate.
- Persons working in man basket should undergo required training or should have experience of man basket working.
- Man basket should be tied with rope to control its swing.
- Persons should use full body harness which should be attached to the main hook.
- Man basket should be checked every day before use.
- Man basket should not be overloaded.
- SWL and no. of persons allowed to work should be clearly marked on man basket
- Do not carry man basket operation when wind speed exceeds 20 km /hr.

Man lift:

- Manlift should have valid third-party test certificate.
- Person handling man lift should have valid third-party certificate.
- Persons working in man lift basket should use full body harness.
- Manlift should be checked every day before use.
- SWL and no. of persons allowed to work should be clearly marked on man lift basket
- Manlift should not be overloaded.
- Ground operating panel should be in working condition.

Forklift:

Forklift is one of the most common equipment used on construction site to handle loads. Forklift is very unsafe equipment if not handled properly.

Hazards:

- Equipment
- Load
- Persons
- Blind corners
- Slippery floor

Precautions:

- Assess the weight of the load to be handled.
- Do not overload forklift.
- Depute experienced and certified forklift operator.
- Ensure he has valid driving license.
- Ensure forklift has valid third-party test certificate
- Check forklift everyday as per the check list.
- Depute trained and experienced banks man (Flag man).
- While shifting loose material, keep it into a suitable container or tie it firmly and then shift.
- Load should not extend 1M out of fork length/width.
- Do not exceed speed 10 km /hr.
- Take extra care at blind corners.
- Do not take turns when forklift is in high speed.
- Drive slowly on wet surfaces, slopes, ramps.
- When driving with load on slope, to prevent toppling, fork lift shall be driven in reverse.
- Keep forks 6” above the floor while running forklift w/o load.
- No passenger is allowed in forklift.
- Reverse horn should be kept on while taking forklift in reverse.
- Sound horn when driving at turns and the area where people are working.
- Do not allow anybody to stand/work/pass under loaded forks.

- Forklift operator must use hard hat, safety glasses, safety shoes and seat belt.
- When forklift is not in use park it in parking area. Rest forks on floor and remove ignition key.

19.12 WORKING AT HEIGHT

One of the highest employee risks is a fall; therefore, 100% use of fall protection is required for personnel working above 1.6 meters. The enforcement measure for non-compliance is up to immediate removal from the project.

One key element toward full compliance is a clear understanding of when, where and what is expected for mandatory fall protection. The following shall apply:

Fall protection compliance is mandatory for all work activity above 1.6 meters and work activity where the potential for falling is evident (e.g., employee standing on piece of equipment 6 feet off ground level, but potential for slippage is high).

Exceptions for the following locations only:

- Permanent walkways fully enclosed with guard rail;
- Approved and tagged scaffold fully guard railed; and
- Personnel working within a scaffold and due to potential work activity, might leave scaffold, shall have and when required use fall protection.

Additional Work at Height Rules:

- Unsafe fall protection equipment will be immediately discarded;
- Safety nets shall not be the primary fall protection device;
- Equipment not manufactured for the purpose of employee occupancy shall not be used for elevated work such as a fork lift or back hoe bucket; and
- Work within any extended work point such as a pipe rack or structural steel framing erection area shall contain a lifeline type system for employee tie-off if required.

Elements of lifelines, and other tie-off points, shall be as follows:

- Lifelines shall not be used for any purpose other than fall protection;
- Lifelines in use shall be inspected weekly (by PCS competent person);
- Minimum wire rope diameter for lifelines is 3/8 inch;

- A tagging system shall be implemented;
- Lifeline anchorage points and personnel tie-off points shall be designed to support multiple employee falls and a minimum of 5,000 lbs;
- Slack shall be maintained less than 2" in centre point; and
- Minimum of (3) bull-dog clips shall be applied.

19.13 SCAFFOLDING

Scaffolding risks (i.e., structural failure, employee injury through falls, material dropping) shall be minimized.

As scaffolding is a technically precise discipline with known parameters. The intent of this section will not be to list all issues for technical erection nor types of scaffolding. Scaffolds erected and de-erected shall adhere fully to OSHA regulatory and accepted industry practice.

PCS and SUB-CONTRACTORS shall implement the following compliance boundaries in areas surrounding the technical issues of scaffolds in accordance with / CLIENT regulatory systems.

- PCS shall ensure a third party certified Scaffolding Inspector with significant industry experience is employed;
- Scaffold Inspector shall be responsible for daily implementation of the inspection process and be independent of scaffolding erection personnel;

PCS and SUBCONTRACTOR erecting scaffold shall comply with the following:

- A qualified and third-party certified Scaffold Supervisor shall be employed for every two scaffold crews;
- All scaffold personnel (Scaffolders) shall be trained by approved third party and training documented. They should carry their scaffolding id card with them;
- Certificates shall be produced on demand.
- Frame type scaffolding is prohibited in use for the project;
- Tube & Clamp or a fixed erect system based on Tube & Clamp is required
- PCS shall inspect all scaffold materials including boards before mobilizing material into the project; and

- Upon mobilization, Scaffold Inspector shall inspect all materials for compliance to requirements before erection commences.

ERECTION REQUIREMENTS

- Under no situation or at any time shall personnel other than approved scaffold erectors to work on incomplete scaffold;
- No one is allowed to modify scaffold except certified scaffold erector after the permission of scaffolding supervisor.
- Only required materials for an approved scaffold erection shall be stored within the construction area;
- At no time shall erected scaffold area be used as a “storage area” for excess material;
- All scaffold “tie backs” to a structure requires Scaffold Inspector approval;
- Before erection commences within Construction area a mandatory “walk down” and full review of each area/level shall be undertaken by PCS for the purposes of understanding potential obstructions and planned activity;
- Rope used in the lifting of scaffold material shall be constructed of manila and have a circumference of 1” or 25mm minimum;
- Only industry practice rope hitches shall be used for material movement;
- Under no circumstances shall material be thrown to any level. This aspect applies particularly to couplers and scaffold tools;
- Ladders decking shall be applied and used at each scaffold level when completed;
- Under no circumstances shall scaffold tubing be climbed as an access to a higher or lower level;
- Ladders shall be staggered at each level;
- Scaffold tubing shall be handled during erection by at least 2 erectors (not just one); and
- Movement of all material shall be handled in a manner that considers the physical surrounding and work activity

SCAFFOLD INSPECTION AND TAGGING SYSTEM

Scaffold inspection program shall have an internal two-tier process involving Scaffold Inspector and Scaffold Erector. The controlling factor shall be the inspection and safe erection process.

- PCS shall use the "Scaff-Tag" type system for inspection control of all scaffolds;
- During erection and dismantling the "red" Scaff-Tag shall be placed on scaffold and remain until scaffold is fully inspected or removed;
- PCS shall inspect all scaffolds and complete/sign Scaff-tag;
- Inspector shall review scaffold for compliance and sign or initial Scaff-tag as the controlling authority;
- Work cannot commence on an erected scaffold until the inspector has made his initials on the Scaff-tag;
- Scaff-tag shall be maintained at all times next to the access point at ground elevation for inspection;
- Scaff-tag shall be maintained in a suitable holder;
- Re-inspection of erected scaffold shall take place as follows:
- Re-inspection shall be undertaken visually daily and noted on scaffold tag every 7 days or after bad weather (e.g., heavy rain, wind above 20mph);
- PCS scaffold inspector shall inspect and sign the back of Scaff-tag at 7-day intervals; and
- Scaffold inspector shall monitor this process through daily field review

LADDER

The following requirements shall apply to ladder use:

Basic Equipment

- Homemade ladders are prohibited;
- Straight adjustable ladders shall include a functional stopping device;
- Portable ladders shall have a working locking device for the ladder brace;
- Aluminium ladders are prohibited while in the service of electrical work;
- Ladder rungs shall not be bent or missing;
- Ladder structure shall not be bent; and

- All ladders shall have standard functional feet for slip prevention.

Basic Use

- All straight ladders shall have a rope tied at the top and secured to a structure as the first act applied when setting up a ladder;
- All straight ladders shall be setup to a 4:1 ratio. This shall apply also to scaffold ladders;
- All straight ladders shall extend 1-meter above the landing and personnel shall not work off the last 3 rungs;
- All personnel shall have and use 100% fall protection when working off a ladder above 1.6 meters;
- Use of a ladder requires what is termed 3-point contact. Out of 2 hands and 2 feet; in some combination 3 must always be touching the ladder firmly;
- At no time under any circumstances shall personnel carry material, tools or any object while climbing a ladder; and
- When ascending or descending a ladder; only one person shall travel at one time.

19.14 GRATING and HANDRAIL REMOVAL

The following shall apply in any grating or floor removal situations:

- Grating or handrail removal shall not be removes w/o prior approval from the client.
- HSE shall be notified of grating or handrail removal and the following compliance steps before work commences;
- Personnel removing grating or handrail shall wear and use fall protection during removal;
- Before grating or handrail is physically removed it shall be secured (e.g., by means of a rope/wire) to prevent falling to level below;
- All grating, handrail and or grating clips removed from a location shall be located in an area away from the opening and clips stored in a bag or like manner to prevent loss of movement through opening;

- The area surrounding the opening shall be “hard barricaded” at all entry points;
- Area below grating removal shall be barricaded and sign should be posted.
- Signage in all appropriate languages (i.e. English, Arabic, and/or Hindi) stating “Danger – Grating Opening – Authorized Personnel Only” in English and English shall be located at all entry points;
- If/when entry is required, entry points shall be controlled through either a sign in-out log or a full-time observer stationed at points of access;
- If work is not completed during normal work period or left unattended for more than two hours the following shall apply:
- Grating opening shall be covered with plywood at a minimum ¾” thick overlapping all sides by 30 cm, or equivalent; and
- The process for re-installing grating shall follow the same sequence and risk reduction steps.

19.15 NIGHT WORK

PCS shall have adequate supervisory and HSE personnel including medical coverage for any night-work activity.

To reduce the risk associated with night-shift work activities the following shall apply:

- Construction team shall submit the following information on a daily basis before 5:00 pm for work at night to client QHSE Manager for review and approval:
- Activities involving what is termed “open sky” (e.g., scaffold erection, structural steel work) is prohibited during the defined night work hours except under emergency type situations with client QHSE Manager Approval.
- Personnel operating lifting equipment shall comply with OSHA total hours worked in a (24) hour period requirements;
- Supervisory staff, HSE personnel and First aider shall be assigned and present for all night-work activity;
- All areas required for field work activity and where personnel shall have to work will have a minimum amount of artificial light equal to 53.81 lux or 10-footcandles;

- The use of tinted safety glasses is prohibited clear or yellow tinted is allowed;

19.16GRIT BLASTING:

Grit includes particles of sand, chilled iron globules, powdered quartz, emery or other hard granular material used in blast cleaning. Grit containing silica or any other hazardous material shall not be used.

Blast Cleaning means the blowing of grit using a system energized by compressed air, water or steam with the purpose of removing scale, rust or old coatings from a surface prior to painting or coating.

- ❖ Grit blasting shall only be done under the supervision of an experienced and competent person.
- ❖ Personnel doing grit blasting work must be competent and experienced in this work.
- ❖ When in an enclosed area it is essential that breathable quality air, free from oil mist, moisture and toxic gas shall be supplied to the operator's hood. This is enabled by passing compressed air through a regulator and suitable pre-filter. The pre-filter shall be inspected daily. Additionally, if there is any danger of inhalation of dust an appropriate dusk respirator shall be worn by persons at risk.

- The supervisor in charge shall ensure that grit-blasting personnel are properly instructed before starting such work.
- The supervisor in charge shall ensure that equipment is maintained in safe and good working order.
- The workplace shall be a restricted area and a rope barricade should enclose the area. Warning signs indicating "DANGER - GRIT BLASTING AREA" should be posted on the barricade.
- Provide suitable materials to act as curtains (tarpaulins, plastic sheeting etc.) to enclose the work area so as to retain grit within the area and protect personnel outside the area.
- Provide suitable and secure covers to protect instruments, gauges, air-lines valves and similar items, which are not to be cleaned.
- Protect electric cables and air-lines, which energize blasting equipment so that they are not likely to be damaged both within and outside the workplace.
- Establish a good housekeeping system to ensure that excessive debris and spent grit is removed as early as possible, and in any case at the end of the day's work.

- Grit blasting of steel surfaces close to flammable or explosive mixtures is hazardous, principally due to static electricity, which may be generated.
- No grit blasting shall take place in the immediate vicinity of operating electric motors or air intakes to operating internal combustion engines. Such items of equipment must be stopped and protected from grit blasting particles
- The grit blasting nozzle shall be provided with an effective dead- mans handle which will shut off the delivery of grit if dropped. A standby man shall always be available.
- Grit blasting equipment shall be properly earthed both before and during use.

16.17 RADIATION:

IONIZING RADIATION

In construction and related activities involving the use of sources of ionizing radiation, the applicable provision of the International Atomic Research Centre standards for protection against radiation relating to protection against occupational radiation exposure, shall apply.

All work involving ionizing radiation shall be done by classified workers under the supervision of a **Radiation Protection Supervisor**. A copy of such appointments shall be forwarded to Company. A detailed procedure shall be prepared detailing the proposed work, potential hazards and controls. A written emergency procedure shall outline what is to be done in the event of loss, damage or malfunction of an isotope or associated equipment.

Any activity, which involves the use of radioactive materials or x-rays, shall be performed by competent persons specifically trained in and qualified ad approved by client to operate such equipment in a proper and safe manner.

- Radiographers will wear radiation badges issued by authority
- A radiation survey meter shall be used to measure levels of radiation during performance of radiography
- The restricted area shall be cordoned off and radiation warning signs posted

NON-IONIZING RADIATION

Only qualified and trained employees shall be assigned to install, adjust and operate laser equipment.

Proof of qualification of the laser equipment operator shall be available and in possession of the operator at all times.

16.18 MANUAL LIFTING AND HANDLING

The biggest cause of Occupational Health accidents in industry / work field is "handling and Lifting". Materials and equipment are often lifted or moved. This can be done in two different ways: By manually handling or by mechanical handling. The workforce shall be trained as to correct working practices by showing films and practical methods to protect them from back injuries and other "Handling and lifting" related hazards.

Safe Manual handling procedure described below shall be followed;

- Bend your knees and keep your back straight.
- Keep the load close to the body. Form proper grip with the load.
- Lift the load using thigh muscles.
- Do not load your back. Do not jerk or twist your body.
- Hold the load as close to your stomach as possible.
- If the load is beyond your capacity, ask for help.
- You should have proper communication when more than one person is involved in lifting.
- Wipe off greasy, wet, slippery, or dirty objects before trying to handle them.
- Keep hands free of oil and grease.
- While transporting take care at blind corners.
- Where possible adopt mechanical method for material handling.

19.19 ELECTRICAL SAFETY:

An experienced Electrical Engineer and a competent Electrician will be responsible for all differing kinds of temporary electrical installation applied in the Site. A competent Electrician will be always present and responsible, during any electrical work in every shift for check controls of the electrical conductors and systems, as well as for the necessary works or repairs.

Before commencing work on Site, company to discuss and agree with the Contractor Engineer's Representative. All safety procedures and the necessary permit to work shall be obtained before commencing work or services on live

electrical apparatus where special circumstances make such operations necessary.

Provision is to be made for communications such as walkie-talkies/two-way radios during safe electrical testing, Energization and similar and also for emergency response.

The following must be followed adequately:

- All temporary electrical facilities shall be installed in compliance with relevant legislation, which shall be in good condition and properly protected against damage.
- Competent electrician shall be appointed responsible for all wiring works and electrical installations.
- An electrical schematic diagram for the electrical supply system should be provided and displayed near the main switch.
- It is essential to provide the main earth connection and install a suitable current operated earth leakage circuit breaker (ELCB) at the main intake position to afford earth leakage protection.
- Appropriate earth conductor should be provided for connection the main earth terminal of the electrical supply system to an effective earth electrode.
- Where generator is installed, independent switch box should be provided for isolation of electricity supply from the generator.
- Generator should be properly earthed, and the exhaust fumes discharged direction shall not cause any harm or nuisance to passer-by.
- All cables should be securely installed, properly supported and protected against damage.
- Electric equipment used in damp situations or exposed to weather should be weatherproof type or contained in an appropriate weatherproof enclosure.
- Armored cables and weatherproof plug and socket shall be used for outdoor installations.
- For repairing works, Lock-out / Tag-out system should be adopted to prevent unexpected restarting of apparatus where such restarting might cause dangers to anybody.

19.20 LOCK-OUT AND TAG-OUT

This procedure establishes requirements for the lockout or tag out of the Project. It will be used to ensure that the equipment is isolated from all potentially hazardous energy and freed of all residual or accumulated energy before employees perform any servicing, energizing, tie in, terminating or maintenance activities.

Preparation for Lockout or Tag out

- Obtain the proper LOTO procedure for the equipment or machine to be locked out or tagged out.
- Identify all affected employees by name or their job title that may be involved in the impending lockout and/or tag out:
- Lockout or Tag out System Procedure
- Notify all affected employees that a lockout or tag out system is going to be utilized and the reason thereof. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.
- Shut down the equipment by normal stopping procedures. Operate the equipment to be sure it is off.
- Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.

19.21 CONSTRUCTION SAFETY GENERAL REQUIREMENTS:

This section shall define the parameters for work execution and risk reduction for supervisors, HSE personnel monitoring field activities and employees.

The use of stand-alone information bullets will allow all personnel requiring understanding in a specific area to acquire it easily and efficiently.

Information provided is based on Client requirements or procedures, OSHA regulatory directives and overwhelming solid accepted industry practice for risk reduction.

The worksite general safety requirements will be developed as separate procedure for the Project.

Golden Rules are:

- Working at height
- Confined space Entry
- Hand and power tools
- Accident/Incidents
- Excavation and ground disturbance
- Housekeeping

- Permit to work
- Lifting and rigging
- Driving safety
- Security

19.22 WORKSITE BASIC SAFETY RULES:

- Safe performance is a condition of employment. It is extremely important to obey rules and be fully compliant with procedures;
- Employees are held accountable for their actions and the impact their actions have on others;
- Disciplinary action shall be enforced, as required;
- PPE use is required for all personnel;
- Horseplay is strictly prohibited;
- The use or being under the influence of illegal drugs or alcohol is subject to immediate dismissal;
- All occupational injuries and illnesses must be reported to the immediate supervisor;
- Tools and equipment are maintained in accordance with requirements and in good operating condition;
- Tools and equipment are to be inspected prior to each use. Damaged or defective tools are not to be used. Tools are not to be welded, heated or altered from their originally manufactured state;
- The use of any home-made tools is prohibited;
- Materials, tools or other objects are not to be dropped or thrown from elevated work areas;
- Barricades and/or signs are placed where necessary to warn against hazardous conditions or activity. Employees shall comply with all safety signage and erected barricades;
- Access to emergency equipment, fire extinguishers, alarm boxes, hose houses, etc., is maintained at all times;
- Firearm/weapons onsite are prohibited;
- Unsafe conditions and activities must be reported immediately;
- Keep scaffolds, overhead landings, walkways, catwalks, etc., free of loose tools and materials;

- All work activity shall be undertaken in an acceptable industry practice safe manner;
- Obey traffic regulations and rules;
- Hair length that exceeds the collar length shall be maintained under the hard hat at all work times;
- Beards and long moustaches may be prohibited in some locations and for those employees required to use a respirator;
- Smoking is permitted in marked designated locations only;
- Consumption of food and beverages outside of established eating areas is prohibited;
- Watches, rings and loose fitting or dangling jewellery are not permitted while using moving/rotating tools and equipment or on electrical equipment. The policy includes wedding rings. There are no exceptions.

19.23 HAZARD WARNINGS/BARRICADES:

- PCS shall have warning signs and barricades in-place throughout the project as required;
- All safety signage shall be placed as applicable
- All signage shall be in the appropriate languages (i.e., English, Arabic, and /or Hindi) to ensure workers understand the information
- All crane lifting operations shall use barricade tape and warning signs of "Work in Progress";
- Confined Space operations will have a sign posted at all entry points as follows: "Confined Space – Entry by Authorized Personnel Only" and a "No Entry" when personnel are not inside Confined Space;
- All work activity where the potential for tools or material to fall below shall have the lower level barricaded and signage applied; and
- All operations where the potential of spillage of any substance a barricade and warning sign for notification as shall have specified in the **Environmental Control Plan**.

19.24 LIGHTING / ILLUMINATION

Illumination is essential for safety, security and production as it is related to every workplace, approach, dangerous opening and lifting appliance. Lighting should be measured at the workplace and not at the light fitting.

- Walking and working areas adequately illuminated during periods of occupancy.

- No dark spots in workplace.

Illumination level sufficient for detail of work performed. Recommended lighting levels are as follows:

- General work area involving site clearance and rough work – 50 lux.
- Craft work such as scaffolding, reinforcing concreting – 100 lux
- Fine craft work such as all work with power tools, painting, electrical, welding – 300 lux
- Emergency lighting for escape – 50 lux
- No faulty light fixtures / bulbs.
- Hand lamps provided with protective cover and preferably double insulated.

19.25 DISCIPLINARY ACTION

Disciplinary action shall be enhanced by Management to all its persons who violate safety.

It is the duty and responsibility of PCS & Its Subcontractors to detect safety violations and unsafe situations and provide the necessary corrections. Whenever a safety violation or an unsafe situation is detected, appropriate parties shall carry out the required corrective measures upon verbal request. In the case of situations implying immediate Incident hazard, work shall be stopped until the said hazard is eliminated.

In case of repeated violations, the Subcontractor HSE personnel will issue a safety irregularity report that will be brought to the attention of the PCM and Project Engineer.

This worker shall immediately carry out corrective action upon the request of the subcontractor representative.

If the safety prescription is not fulfilled, the PCM and HSE Coordinator shall take the following measures:

- A written memo to request the eliminate the causes of danger, and to suspend work immediately;
- Remove the one who breaches safety regulation deliberately off site;
- Suspend those who have not enforced safety instructions;

All site activities will be monitored regularly and any violation on this Health, Safety & Environment Plan shall be recorded. The site management shall deal with any safety violation noted.

The procedure shall be as follows:

SAFETY VIOLATION FOR WORKERS	
First Violation	The violators shall be given a verbal warning on the spot itself.
Second Violation	If he/she repeats the violation, he/she will be provided with a written warning and will be made to attend the Safety Induction Training again.
Third Violation	He/she will be penalized and suspended/ dismissed from the site, with a note to the Safety Department and Personnel Department.
SAFETY VIOLATION FOR STAFF	
First Violation	Warning letter shall be issued to him by the Safety Manager/Coordinator and copy will be sent to Project Director.
Second Violation	Appropriate fine shall be imposed upon him by PCM. Warning letter shall be issued to him with a copy to the Personnel Department.
Third Violation	He shall be removed from the worksite.

Any major breaches to the site safety plan, relevant statutory provisions and safety codes, any other blatant disregard for the health and safety by any person directly or indirectly associated with the works may result is the removal from the site.

Any person who is removed from the site for breach of safety measures shall not be allowed back on the project.

Fighting

a. Fighting shall be prohibited at the work premises.

b. Any staffs and workers found to be involved in fighting at work premises shall be terminated immediately.

19.26 INSPECTION

Safety inspection includes general inspection and scheduled inspection. General inspection is the daily inspection to the unsafe condition and unsafe operation carried out by site personnel and safety supervisor. Scheduled inspection is the regular or special inspection determined by the HSE Coordinator. He shall draw up a plan for scheduled inspection, which shall include the attendant, the area to be inspected and the frequency of inspection etc.

Unsafe condition or condition not unsatisfied to standard found shall be informed to related department or personnel and shall be reported to HSE Coordinator together with the correction measures.

If any person, property or environment is found to be endangered, related work shall be stopped and the facilities and equipment involved shall be forbidden to be used until the unsafe method or condition is corrected or controlled.

Daily Safety Inspection

General Foremen and HSE Coordinator / HSE Supervisors shall conduct daily inspections for their responsible areas and take immediate corrective actions for any hazard identified.

Weekly Safety Walk

The PCM or delegates, Project Engineer, General Foreman, HSE Coordinator, HSE Supervisor and Sub-contractor's safety representatives shall attend Weekly Safety Walk on a weekly basis with inspection record, to inspect that health and safety conditions are being maintained satisfactory on the site. Inspection records shall include confirmation that previous remedial actions have been carried out.

Areas of Inspection

A comprehensive Site Safety Inspection Checklist shall be prepared for the use of the Weekly Safety Walk. All areas occupied by the client in connection with the Works shall be inspected and the areas of inspection may include but not limited to:

- Site Planning and General Layout
- Lifting Appliance and Lifting Gear
- Plant, Equipment and Machinery,

- Scaffold and Working Platform
- Excavation
- Electricity
- Hot Work
- Hazardous Substances
- Confined Space Work
- Housekeeping
- Personal Protective Equipment
- Site Office / Depot / Store yard
- Health, Hygiene, Welfare & Pest Control

Annexure – 1: HSE Performance Monitoring Plan

HSE Performance Monitoring Plan						
Sr. No	**Title**	**Frequency**	**Responsibility**	**Coordinator**	**Participants**	**Remarks**
1	Weekly HSE Performance Review Meeting	Weekly	PCM	HSE Coordinator	• Staff from client • PCM; • HSE Staff; • Administrative Staff; • Any other person as required;	
2	Monthly HSE Performance Review Meeting	Monthly	PCM	HSE Coordinator	• Staff from client • PCM; • HSE Staff; • Administrative Staff; • Any other person as required;	
3	Internal HSE Inspection	Daily	HSE Supervisor	Sectional Head / PTW holder	• HSE Staff; • Work Supervisors; • Any other person as required;	
4	Internal HSE Audits	Yearly	QHSE Manager	HSE Officer	• PCM; • Section Head; • HSE Staff and Work Supervisor	
5	Emergency Drill	6 Monthly	PCM	HSE Coordinator	• All personnel on site and offices.	
6	Compliance Assessment	Monthly	QHSE Manager	HSE Coordinator	• PCM; • Section Head • HSE Staff; • Administrative Staff;	

					• Any other person as required;	
7	HSE Training Plan Achievements	Monthly	PCM	HSE Coordinator	• PCM; • Section Head • HSE Staff; • Administrative Staff;	
8	Risk Assessment	As required	HSE Officer	Risk assessment Committee	• PCM. • Section Head • Worksite Supervisor / PTW Holder • HSE Officer • QC Manager (as required)	
9	Incident / accident Investigation	after incident	PCM	HSE Coordinator	• Discipline Sectional Head • Worksite Supervisor / PTW Holder • HSE Officer • Involved employees	

Annexure – 2: HSE Training Matrix

Sr. No.	Training Code	Training Title	Source							
			Internal	External	Concerned Staff	HSE Staff	Concerned Workers	Male Nurse	Passenger/ Goods Vehicle Drivers	Remarks
1	HSE/01	HSE Induction & Work site Rules and Regulations	X		X	X	X	X	X	
2	HSE/02	Emergency Response & Preparedness	X		X	X	X	X	X	
3	HSE/03	Fire Warden		X	X		X			Selected employees
4	HSE/04	PTW	X		X	X	X			Selected employees
5	HSE/05	Basic First Aid		X	X	X	X	X	X	Selected employees
6	HSE/06	Chemical Safety	X		X	X	X			Selected employees
7	HSE/07	Lock-Out Tag-Out Procedure	X		X	X	X			Selected employees
8	HSE/08	Gas Cylinder Safety awareness	X		X	X	X		X	Selected employees
9	HSE/09	Gas Testing		X	X	X				Selected employees
10	HSE/10	Basic scaffolding Awareness		X			X			Selected employees

Sr. No.	Training Code	Training Title	Source							Remarks
			Internal	External	Concerned Staff	HSE Staff	Concerned Workers	Male Nurse	Passenger/ Goods Vehicle Drivers	
11	HSE/11	Confined Space Entry		X	X	X	X			Selected employees
12	HSE/12	Rigger Training		X			X			Selected employees
13	HSE/13	Manual Material Handling awareness	X		X	X	X		X	
14	HSE/14	Waste Management	X		X	X	X		X	Selected employees
15	HSE/15	Work At Height		X	X	X	X			Selected employees
16	HSE/16	Road Safety Management	X		X	X			X	Selected employees
17	HSE/17	Health and Hygiene awareness	X		X	X	X	X	X	
18	HSE/18	Heat Stress Prevention	X		X	X	X	X	X	
19	HSE/19	Safe Usage of Hand Tools & Cartridge Operated Tools	X		X	X	X			Selected employees
20	HSE/20	Usage of PPE's	X		X	X	X	X	X	
21	HSE/21	Lifting and Rigging	X		X		X		X	Selected employees

Sr. No.	Training Code	Training Title	Source							Remarks
			Internal	External	Concerned Staff	HSE Staff	Concerned Workers	Male Nurse	Passenger/ Goods Vehicle Drivers	
22	HSE/22	Safe Operation of Heavy and Mobile Equipment		X			X		X	Selected employees
23	HSE/23	Excavation Awareness Training	X		X	X	X			Selected employees
24	HSE/24	Hazard Identification & Risk Assessment	X		X	X				Selected employees
25	HSE/25	HSE Management System	X		X	X	X			Selected employees
26	HSE/26	Environmental awareness	X		X	X	X			Selected employees

Annexure – 3: HSE SYSTEM MONITORING SCHEDULE

Sr.NO.	DESCRIPTION OF ACTIVITY	ACTION PARTY	FREQUENCY
1	HSE Performance review meeting with client	PCM	Weekly
2	HSE Performance management review meeting	PCM	Monthly
3	Internal HSE Inspection	HSE Officer	Weekly
4	Internal HSE Audits	QHSE Manager	Yearly
5	Emergency Drill	PCM	Half-yearly
6	HSE Compliance Assessment	QHSE Manager	Monthly
7	HSE Training plan achievements	QHSE Manager	Monthly
8	Toolbox Talk	Site Supervisor	Everyday
9	Site Inspection Report	HSE Officer	Everyday
10	Camp Inspection	Camp Boss	Monthly
11	Environmental Inspection	HSE Officer	Monthly
12	Fire Extinguishers Inspection	HSE Officer	Monthly
13	Lifting tools and tackles inspection	Rigger	Monthly / Daily
14	Plant equipments inspection	Operators	Monthly / Daily
15	Hand tools and power tools inspection	Concerned workers	Monthly / Daily
16	Electrical cables, sockets, installations	Electrician	Monthly
17	Scaffolds	Scaffold Inspector	Weekly
18	First Aid Boxes	First Aiders	Monthly / Daily

Annexure – 4: PCS ORGANISATION CHART

Contact Information

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Thank you…!