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OIL&GAS PROFILE

2015

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Outlines

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Management Message

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President Message

It is my pleasure to have an opportunity to introduce Petro Sahel Company and its capabilities and experiences.

Establishment of Petro Sahel Co, as a general contractor, comes back to the November 1990. During these years up to now, Petro Sahel has been capable to perform a wide range of large scale and complex project based on its skillful and professional human resources, varied, special and updated equipments.

All Petro Sahel services has been served in accordance with International Standards and best Practices.

Petro Sahel Co, believes that managers and personnel are its main asset and the Company has continuously tried to develop their abilities via planning and holding up required training courses (such as in HSEQ), participating in related events and conferences.

Petro Sahel Co. is playing a salient role in major projects as a general contract (GC) using modern managerial methods and latest theoretical and practical findings.

This company also intends to develop its role in some mega domestic and international projects internally or in cooperation other qualified and experience companies (if required).

At the end, I, as Petro Sahel president, believe that we need to use specialized software's and hardwires in order to perform major projects successfully.

Furthermore, cooperation, training and efforts of all personnel shall be continued and kept on.

Petro Sahel Co. has been participating in construction industry for more than 2 decades, handing national and international outstanding projects.

Petro Sahel's main fields of activity are divided into Engineering Procurement and Construction of Marine, Oil & Gas and civil projects.

Expert human resource management as well as exploiting Hi Tech, equipment on a knowledge wise foundation turns the company into a leading contractor to tackle the most sophisticated multipurpose mega projects.

- Petro Sahel has drawn striking perspective from its activities in the field by rendering much efforts and following the guidelines to gain general aims along with developing organizational values while accomplishing missions.
- All the projects which are being executed have been attained in a competitive market condition and through general tenders and handing over to the clients satisfactorily within due deadlines.
- The Company in its development programs plays an active role, observing related principles which are:
    - Rendering the services in a superior quality (Quality)
    - Regarding deadlines in project exploitations (Time management)
    - Applying cost effective themes while being on schedule with predefined quality (Economy)
    - Execution and presenting updated technical services (Excellency)

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Introduction

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Petro Sahel

Creativity and innovation, quality and speed in implementation as well as observation of honesty and professional working health are undoubtedly from amongst the special capabilities have converted Petro sahel these days to a specialty group experienced in the field of designing, supplying goods and equipment and also implementing big scaled civil and industrial projects throughout Iran and the Persian Gulf Region. We are a group pioneering in all the relevant disciplines of specialty with taking benefit from various equipment, facilities and machinery which have enabled Petro sahel to implement different and complex projects, which used to be under the monopole of big and famous foreign companies, within the framework of EPC contracts.

Through permanent vision on development of modern managerial systems and protecting and guarding the environment, in many cases Petro sahel, while applying value engineering methods in reducing the costs on implementation of the projects and establishment of quality control management and obtaining valid certificates, is also honored to implement the first, biggest, widest, largest, fastest ones and also achieved certain records in the country and regional level, and have managed to take big steps towards continuance of its success.

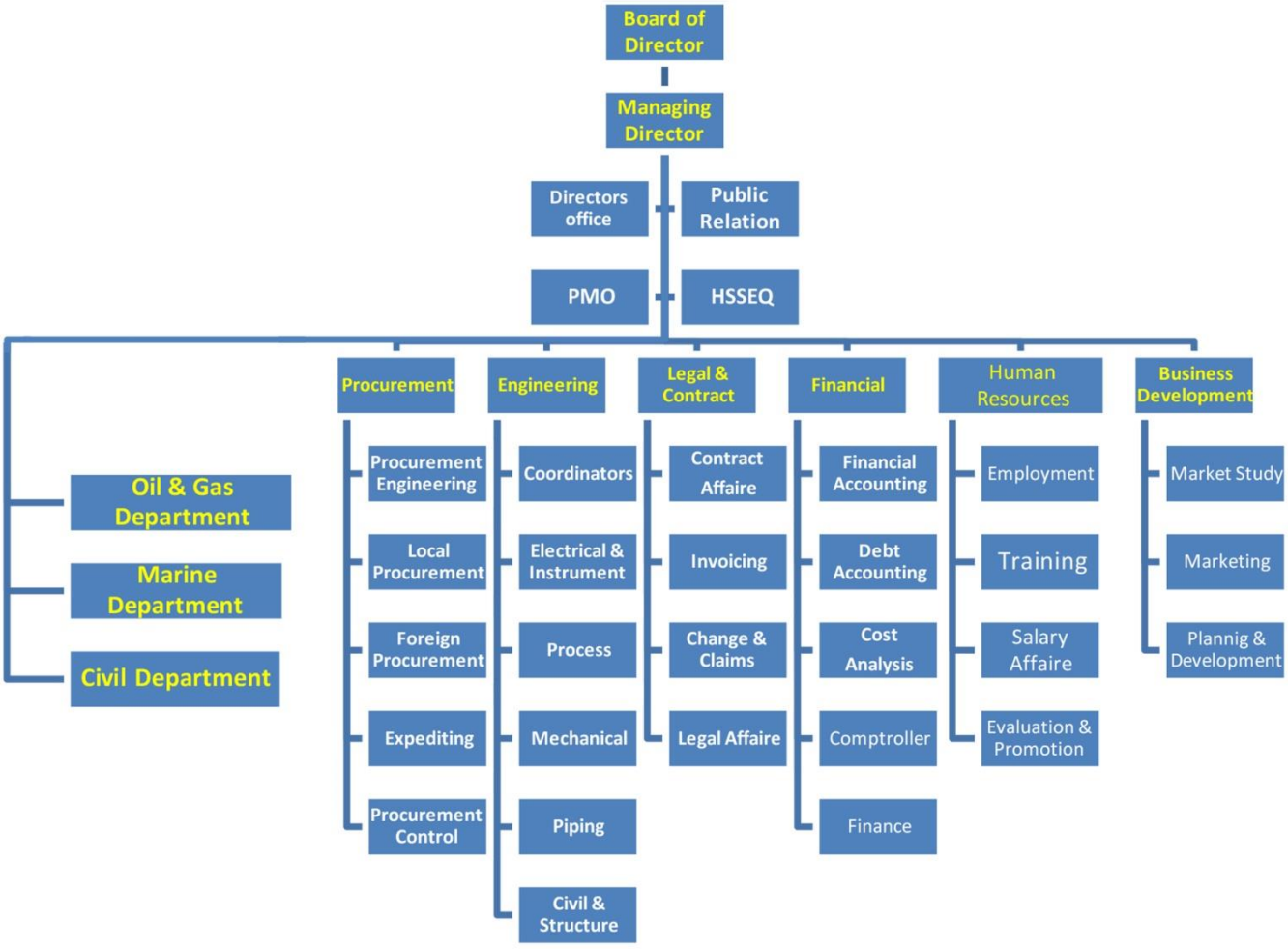
Company Introduction

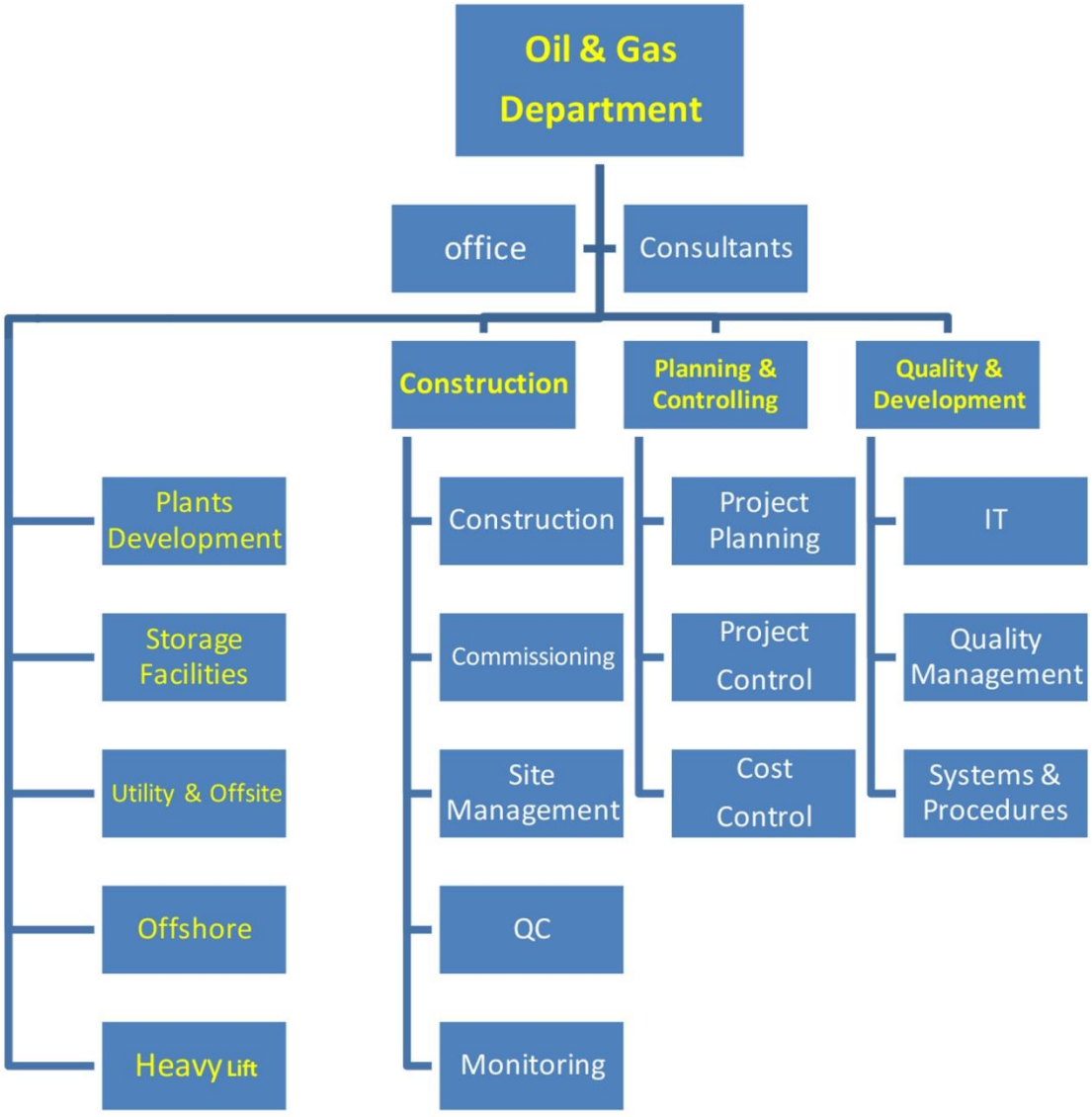
Petro sahel has commenced its activities as of 18/Oct/2010 under reg. No. 390137 with the purpose of rendering technical, engineering and contracting services in EPCF format and project management in the fields of oil, gas and petrochemical, marine and civil.

Most important activities and capabilities of the company

Rendering technical, engineering and contracting services in EPCF format and project management in the field of oil, gas and Petro chemistry in offshore and onshore manner and exporting and importing permitted merchandizes and needed equipment for the said project and forming consortium with domestic and overseas companies and supplying and procuring financial sources and credit facilities from domestic and overseas banks for the company projects and investment and partnership with natural and legal persons in all fields.

Organizational Structure




Oil & Gas Department
office
Consultants
Construction
Planning & Controlling
Quality & Development
Plants Development
Storage Facilities
Utility & Offsite
Offshore
Heavy Lift
Construction
Commissioning
Site Management
QC
Monitoring
Project Planning
Project Control
Cost Control
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Human Resources

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Field of study	Associate Degree	Bachelor's Degree	Master's Degree	PhD
Civil Engineering (Theoretical & Applied studies)	150	410	93	6
Mechanical Engineering (Theoretical & Applied studies)	72	300	19	5
Marine Engineering	4	80	40	5
Mining	5	73	41	4
Architecture	35	29	10	2
Petroleum & Gas	1	23	15	3
Industrial Engineering	9	50	18	2
Information Technology	9	11	15	4
Computer Engineering	63	55	5	1
Electrical Engineering (Theoretical & Applied studies)	69	120	30	10
Marine Sciences	8	1	10	2
Environmental Design	2	15	10	2
Materials & Metallurgy	4	20	15	1
Ship Architecture	0	0	2	0
Management	28	110	30	5
Law	6	45	2	1
Foreign Language & Literature	7	25	2	0
Custom Affairs	1	0	0	0
Statistics & Mathematics	2	9	0	0
Economics	7	18	1	1
Health	16	25	2	1
Medicine	0	0	0	1
Geology	0	22	18	0
History	0	5	0	0
Accounting	100	116	10	0
Railway	0	15	10	1
Psychology	0	3	0	0
Biology	0	6	0	0
Chemical Engineering	2	48	19	2
Physics	0	9	0	0
Social Sciences	8	17	0	0
Humanities (University Studies)	1	2	0	0
Physical Education	3	0	0	0
Geography	0	7	2	0
Political Sciences	0	6	2	0
Textiles	0	2	0	0
Other Fields	29	48	3	0

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HSE Plan

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HSE MANAGEMENT PLAN

Table of Contents

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF THE PLAN

This document is to define the general technical guidelines established by the CONTRACTOR, to provide all personnel with safe operating practices and awareness for the work they perform in the course of their duties during implementation of projects. The purpose of this plan is therefore:

- To explain the rules and organization set up by the CONTRACTOR to monitor and improve the performance regarding health and safety of employees at work and environmental protection,
- To describe the allocation of responsibilities at all levels of the project,
- To describe some of the tools to analyze, advise and review on health, safety and environmental issues.

1.2 DEFINITION OF TERMS

Approved: An internationally recognized approval authority and/or the company has approved the item or procedures.

Shall: Indicates a mandatory course of action

Should: Indicates a preferred or recommended course of action

HSE: Health, Safety and Environment

COMPANY: The client who is owner of the work

CONTRACTOR: The Company that provides a product or service under a signed contract or agreement. Here it refers to PETROSAHEL

TPA: Third Party Authority.

PPE: Personal Protective Equipment.

MSDS: Material Safety Data Sheet.

PTW: Permit to Work.

Incident: An event or chain events, which causes or could cause injury, illness and/or damage to material/installations or environment.

Anomaly: Any situation having the potential to contribute to an incident.

2.0 HSE POLICY

THE CONTRACTOR recognizes his responsibility to protect and maintain the health and safety of his employees, his clients at project sites and the general public, as well as protecting the natural environment, in all our endeavors.

Therefore, we hereby confirm that THE CONTRACTOR policy incorporates the following practices in the execution of all phases of our project activities, including the Design, Engineering, Procurement, Construction, Commissioning and Start-up of all plant and industrial facilities.

1. THE CONTRACTOR will meet the requirements of all applicable international codes and standards, as well as local regulations, in the execution of the Project. In addition, THE CONTRACTOR will fully comply with COMPANY's site specific health and safety requirements as per the requirement of Client.
2. THE CONTRACTOR will evaluate, and take steps to mitigate, the environmental, health and safety impact of the project.
3. THE CONTRACTOR will reduce energy consumption whenever possible and introduce programs to recycle materials.
4. THE CONTRACTOR will ensure that his subcontractors and suppliers comply with our responsibilities for the safety, health and welfare of project personnel and the environment.

In support of the implementation of this policy, THE CONTRACTOR efforts are guided by our Environmental Management System in accordance with ISO 14001 standards.

As stated, one of the primary objectives of the policy is the protection of the health, safety and welfare of all THE CONTRACTOR, Subcontractor and COMPANY personnel involved in execution of the Project. To this end, THE CONTRACTOR's Safety and Loss Prevention Program will be adapted for the project.

A successful Safety and Loss Prevention program starts with the total commitment of THE CONTRACTOR project management. It is the responsibility of the management team at all levels to enforce the standards of the Safety and Loss Prevention program within their specific departments or project areas.

Therefore, good Safety and Loss Prevention practices will be supported, and encouraged, by management's example and the Project Management team shall take an active role in the direction of the Safety and Loss Prevention Program.

This program is designed to impart the necessary knowledge, skills, overall attitude, and involvement that will enable all personnel to be proactive in health and safety matters. The program is specifically designed to assist those who deal with Safety and Loss Prevention as a direct functional responsibility at the work face within the context of their specific job.

THE CONTRACTOR's project team clearly understands, adopts and supports this policy and will endeavor to continually improve upon the system in every aspect of project execution. All Subcontractor personnel involved in project activities must also understand and follow the provisions of this program.

Therefore, the direct involvement, participation and adherence of THE CONTRACTOR's subcontractor management, supervision and labor personnel in the program will be a prerequisite to their working on the site.

In addition, and in direct support of the site Safety and Loss Prevention Program, THE CONTRACTOR will provide the following site facilities and services for his employees and all personnel involved in the work site:

• Temporary roadways, footways, access ways for personnel and equipment that will provide for safe access to all work areas.

• A white board should be installed at the main gate updated monthly with following information

1. Man - hours
2. Number of lost Time Injury (LTI) cases
3. Number of lost work days
4. Severity Rate
5. Frequency Rate
6. Percentage of progress

• Safety equipment to protect their person when on site.

• Tools & Equipment safe and suitable for the work.

• Training and information for safe working

• Fencing and lighting to protect, and provide safe access to, all work areas
• Security guards for the protection of personnel and property.
• Lodging, messing and hygiene facilities to standard.
• Safe transportation for work
• Rescue and firefighting equipment
• Safe working area and environment
• Communication

Medical facilities will be provided including;

• Medical staff trained in “first aid” procedures, treatment of heat related sickness and resuscitation procedures
• Medical service facilities such as a site clinic for first aid treatment, first aid medical supplies and “sick bay”. List of facilities included in ambulances shall be mentioned in relevant document.
• Manned ambulance service available at all times for transfer of patients from the accommodation camp and or work site
• Standing procedures, and approved arrangements, for the reception of patients at local medical facilities on an emergency basis.

Only with the active commitment of all site participants, we ensure that THE CONTRACTOR maintains the health and safety of the work environment.

The Management HSE Committee will be the vehicle for ensuring that all parties to the project are fully committed and involved in the achievement of project Safety and Loss Prevention objectives. THE CONTRACTOR’s Site Manager shall chair this forum and lead the site management team in setting an example for the whole work force.

3.0 OBJECTIVES AND GOALS

The following are the goals and objectives of the HSE Management System:

1. No (Zero) Lost Time Injuries.
2. No (Zero) Significant Property Loss
3. Exclusion of unsafe conditions/situations on the site.
4. Exclusion of situations that could have an negative impact on employee' s health, safety or welfare

5. Exclusion of activities that might have an negative impact on the environment.

The strategies to achieve the goals and objectives of the HSE Management System include:

1. Ensuring a high level of HSE awareness of both Senior Management and Employees through a system of regular training and auditing; i.e. the site Safety and Loss Prevention Program.
2. HSE Performance Reviews as to compliance and non-compliance to be conducted by THE CONTRACTOR Management and improvement Action Plans implemented.
3. Managing a formal Accident and Environmental Pollution Prevention system with the involvement of all staff; with regular inspections and reporting to ensure compliance.
4. Maintaining updated internal and external standards which comply with THE CONTRACTOR, COMPANY and Local Safety and Environmental Regulations; use them in the training programs.
5. Managing an Environmental and Safety Regulations Compliance system comprising regular audits and reports based on industry standards of auditing.
6. Monitoring of HSE performance (system and execution performance) through regular audits and inspections.
7. Ensuring that Emergency Response/Contingency Plans are in place for responding to any safety or environmental incidents which may occur; carry out regular drills to ensure all parties are aware of their role in the plan and what action to take, including safe evacuation.
8. Operate a "Safety Action Response Plan" to ensure that preventative steps are taken whenever site personnel report a potential hazard; i.e. address all hazards promptly, thus encouraging the reporting of potential hazards.

4.0 HSE ORGANIZATION & COORDINATION

The emphasis on protection of project safety, health and environmental standards starts with

THE CONTRACTOR corporate management and extends throughout the project organization from the management team to each and every work front on site. As

noted, this requires the commitment of all members of the team to meet their own individual responsibilities toward the health, safety and welfare of the project as a whole.

The HSE Management Team and team members are charged with responsibility for the implementation of the Safety and Loss Prevention Program for the project as a whole and, as such, play a key role in the success of the project.

They not only have a direct hand in the daily direction of HSE matters on the project, they have responsibility for supporting all members of the project team through the review of safety design features, the review of construction plans and methods, the provision of proper training and safety guides, the supply of safety tools and equipment throughout the site, the auditing of working practices, advising on preventative measures and implementing safety improvements as required.

In addition to this primary role in preventative action, the HSE team will act as leaders of the first line response teams in the event of accidents or incidents.

THE CONTRACTOR will submit its site specific HSE Manual, including the Safety and Loss Prevention Program for COMPANY approval soon after kick-off and well prior to commencement of work at site.

THE CONTRACTOR will notify COMPANY of the names and resumes of the personnel whom THE CONTRACTOR intends to assign to each of the HSE management and supervision functions. However, the principles of organization will be as follows;

(1) Management

The Project Manager acts as the sponsor for project compliance with THE Contractor HSE Policy for the whole project. He is also a member of THE CONTRACTOR's corporate HSE Management Committee and answerable to them for conduct of HSE Policy on the project.

The HSE Manager for the project will be assigned at an early stage and, immediately at kick-off, commence the pre-project / pre-task planning for HSE matters described in paragraph 3.1.

He will report directly to the Project Manager at this initial stage and, with the support of project management, select the members of his team who will participate in initial safety design and constructability reviews in Head Office.

He will oversee these Head Office activities together with the Engineering and Construction Managers and commence the selection of his site HSE Team members.

(2) Site Execution

The HSE Manager shall establish his team on site where he shall report directly to the Site Manager. The Site Manager shall exercise the Project Manager's authority for HSE matters on site and, as such, shall act as chairman of the HSE Management Committee on site. The Site HSE Manager shall be a key member of this committee.

This reflects the Site HSE Engineers and Safety Supervisors as key members for the site health, safety and environmental protection. They provide the expertise, materials, training and field support essential for the construction team members to fulfill their responsibilities for health, safety and welfare of the work force as well as respect to the environment.

This also reflects the site security function and the coordination of construction work permits under the direction of the Site HSE Manager.

(3) Personnel

The site HSE Engineers and Safety Supervisors will be assigned under the Site HSE Manager in sufficient numbers to ensure that full time coverage and support is provided at every major work face.

Contractor's policy is to ensure that all field supervisory staff, from Construction Manager to the field foreman level, plays a proactive role in protecting the health, safety and welfare of the work force on the site. This policy ensures the maximum number of field personnel is given direct responsibility, and accountability, in the direct achievement of site health and safety goals.

The HSE Manager and his Safety Engineers and Safety Supervisors will be responsible for the necessary training, auditing and support necessary to ensure that Contractor's construction supervisory team, and that of our sub-contractors, can exercise this responsibility at all times.

Contractor will assign, as HSE Manager, a senior qualified professional who will be responsible to Site Manager for all HSE matters. The HSE Engineers and Safety Supervisors will be assigned from our pool of experienced HSE staff who have recently worked on similar projects in the region.

(4) Competent Person

The HSE Manager will be responsible for ensuring that those supervisors, craft specialists and foremen in charge of special activities (and the safety supervisors for the area and discipline) are competent in all aspects of hazard identification and mitigation associated with the task.

To this end he will prepare a Competent Person Assignment Procedure which will outline the requirements for safety competency evaluation and the methods of verifying same. This applies to Subcontractor staff as well as THE CONTRACTOR staff. This applies as well to the assignment of a Competent Person to cover specific areas and/or discipline activities.

4.1 PRE-PROJECT / PRE-TASK PLANNING FOR SAFETY

The HSE Manager for the project will join the project team at project kick-off. He will have a multidiscipline coordinating function for design safety and constructability safety requirements.

He and his team will work with the Project Management Team (including Owner's representatives), the engineering design team and the construction team for the development of the following for management and Owner approval;

1. The HSE Policy for the project including Owner's specific requirements
2. The HSE objectives to be obtained.
3. The HSE Organization and appointment of members
4. The Organizational Responsibilities and Authorities matrix
5. The HSE Manual for the project including

• HSE procedures and the applicable laws, regulations, codes, standards and COMPANY's requirements to be followed.

• The Safety and Loss Prevention Program for the project including site orientation and safety training requirements

• The Emergency Response Plan for the project for preliminary review with Owner and local authorities.

• Site Security Procedures for review and approval with Owner and local authorities.

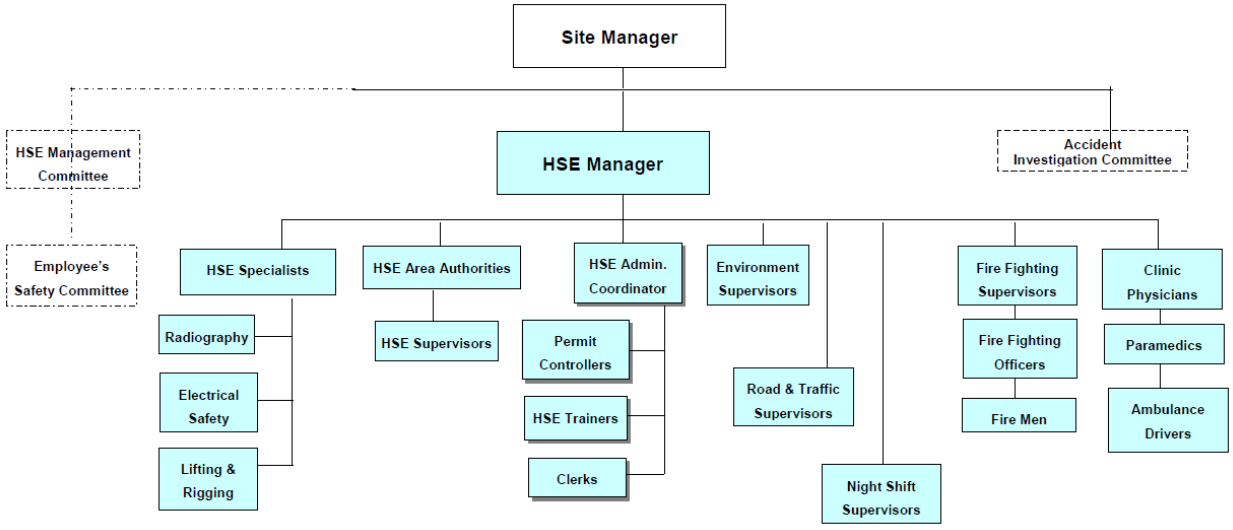
• Procedures for the HSE Management Committee including audit and reporting procedures.

• Procedures for the Management and Employee Safety Committees for management and Owner approval.

• Site Safety Promotion Program for management and Owner approval.

• Procedures for Accident Investigation and Reporting for management and Owner approval.

6. Participation in safety design reviews and constructability safety reviews; kick off for the HSE Audit Plan.



5.0 PROJECT / JOB SAFETY ANALYSIS (JSA)

The safety training program for field construction supervision staff and their labor force will be designed to suit the specifies of the site and work conditions that will be encountered on this job. For this purpose the HSE team will use the Job Safety Analysis (JSA) Procedure as a tool for identifying specific work hazards, devising work methods to mitigate the hazard and training the work force in these methods.

The CONTRACTOR will break down a particular job (such as spool erection at height)) into the basic steps or tasks, analyze the potential hazards of each step, and identify methods to avoid these hazards. The CONTRACTOR will incorporate the

results of the JSA in the Work Indoctrination and Job Safety Training modules which will be given to all construction field supervisory staff and the labor force.

These results will also be incorporated in the Construction Work Procedures and Site Safety Plans used for the project. This process of job analysis will be on-going as the job progresses and new work fronts are opened.

The JSA Procedure involves formal Workshop exercises with the concerned disciplines participating in work method analysis exercises. The following basic steps are involved; all to be coordinated by the site HSE Engineers,

(1) Select typical work items for each discipline; prepare analysis format

(2) Select Workshop participants from each discipline; i.e. supervisors, foremen, craftsmen.

(3) Conduct Workshops

3.1 Prepare work task breakdown

3.2 Team observation of work item in field

3.3 Review/revise work task breakdown basis field observations

3.4 Identify work hazards (present and potential)

3.5 Identify hazard mitigation steps; i.e.

- Personal Protective Equipment (PPE) needs
- Tools and Equipment needs
- Work Methods changes needed
- Procedural changes needed
- Personnel or skill changes needed
- Permit systems needed

The results of the Workshop shall be included in the Task Analysis Report and any specific changes for hazard mitigation included in the Safety Procedures.

The results of each JSA will be summarized and presented to each of the discipline groups as part of their job safety training program. Action required by other groups for equipment, procedural and/or skills changes will be reported to management for appropriate action.

The effectiveness of the JSA Program will be monitored on a continuing basis. The following items will be addressed in monitoring the program.

1. HSE Manager/Safety Engineers to evaluate the effectiveness of the JSA in eliminating or reducing the hazards associated with the task; i.e.

• Have the lessons learned been passed to the persons executing the job?

• Are the remedial action steps being observed by the staff and crews?

• Have the proper tools for the job been supplied; i.e. new PPE, Equipment?

• Are these items being used properly; is proper use understood?

• Has the proposed training been implemented; is it effective?

If any of the above is not being effectively applied the HSE Team must investigate the reasons and expedite corrective action with those responsible.

2. A continuing review of incident & accident records is required to determine which, if any, issues related to the above tasks has been overlooked. If so, the HSE Team will take action to reinvestigate the JSA.

3. A continuing review and evaluation of jobsite working conditions is required to determine if changes in the physical environment may have introduced new or unforeseen hazards. If so, the

HSE Team will take action to reinvestigate the JSA.

4. Feedback from the Workshop participants as the work progresses is to be formalized through jobsite reviews, participation in Tool Box meeting reports, etc. This feedback by the people doing to tasks must be included in any evaluation of program effectiveness.

The effectiveness of the JSA Program will be reported to the Management HSE Committee on a regular basis for necessary action.

6.0 SITE MANAGEMENT HSE COMMITTEE

The Site Manager will, on authority of the Project Manager, act as Chairman of the Site Management HSE Committee to discuss all matters with regard to site environmental, safety and health (HSE) management. Other members include COMPANY's Construction, HSE, Security and Senior Functional Management nominees. THE CONTRACTOR representatives shall include the Construction Managers, HSE Manager and Administration Manager. Subcontractor Construction Management representatives shall also attend.

The HSE Management Committee shall convene on a regular basis (at least biweekly). The secretary will be THE CONTRACTOR's HSE Manager who shall convene the meeting, present the agenda for the Chairman, report on current HSE activities and status and monitor decisions taken by the Committee and record the minutes of meeting.

This HSE Management Committee shall conduct regular field audits of the work-site (preferably biweekly), noting all items needing corrective action. Of special interest will be those items highlighted by the monitoring of the JSA Program as requiring further remedial action.

These Management Committee field audits serve not only to identify deficiencies in work site safety conditions but, equally important, they serve to;

• Provide a first-hand review by the joint management team of the effectiveness of the site Safety and Loss Prevention Program and an opportunity for them to formulate practical steps to remedy any shortcomings.

• Provide a regular opportunity to directly demonstrate management's commitment and interest in health and safety of the work force and, additionally,

• Offer the management team, an opportunity to jointly review HSE construction execution issues of strategic importance at the working level.

Site HSE Manager is responsible for publicizing HSE issues of importance for the information of site personnel on a regular basis.

This will include HSE topics of interest, the status of the Safety Incentive Program, the effectiveness of the Safety and Loss Prevention Program and action or directives by the HSE Management and Employee Safety Committees.

7.0 EMPLOYEE HSE COMMITTEE

An Employee Safety Committee will be convened on a weekly basis at the work site. The members of the Employee Safety Committee shall include at least one representative from each of the following THE CONTRACTOR and Subcontractor groups;

• Construction Supervisory teams

• Construction Foreman groups

• Skilled Crafts teams.

• Safety Engineer teams

• Safety Supervisor teams

It is planned to rotate the representatives from these groups over the course of the project in order to gain input from, and give participation to, as many of the work force as practical.

As noted, the committee will be composed of those field staff who are directly involved in the supervision of the work and responsible for the health, safety and welfare of the work force at the work front. They, together with the HSE Engineers and Safety Supervisors, are responsible for continuous safety awareness at the work front and the auditing and training required to ensure the integrity of site safety.

Although a large group, the intent is that there is open and frank discussion of the full range of safety topics and issues and that the employees are given the opportunity to identify safety issues of direct concern and contribute their ideas on practical remedial action or measures for hazard reduction.

The Site HSE Manager (or delegate) will chair the Employee Safety Committee. The attendees shall include the Subcontractor HSE Managers and this is the opportunity for joint and coordinated feedback from the work front to management on the effectiveness of the Safety and Loss Prevention and JSA Programs.

Typical issues to be covered include;

1. A review of the current site safety statistics and report on incidents, if any.
2. A review of any new potential hazards that have arisen or are anticipated and a decision on action required to address them.
3. A review of the status of previous Safety Action Items and, if not in place, action required to expedite them.
4. A review of status and effectiveness of the JSA Program; confirmation of ongoing analysis needs and participants
5. Status review and any action required, for Safety Incentive Program
6. Review of Safety Training Status and upcoming program.
7. A review of Site Housekeeping status; any needs identified on site.
8. A review of any tools, equipment, supplies or PPE needs identified on site.

To be effective, the objective shall be to assign specific responsibility and necessary action if possible, for all issues raised at each meeting which require further action.

The Site HSE Manager shall prepare the minutes of meeting, including the updated Safety Action Items report, for issue to all members of the Employee Safety Committee.

The Site HSE Manager shall report the results of the meeting, and action taken, to the Management HSE Committee; in particular any issues requiring management action.

8.0 TOOLBOX MEETINGS

THE CONTRACTOR, and our Subcontractors, will hold regular Toolbox Meetings with the construction execution work force throughout the course of the work. These regular toolbox meetings are used to address the workforce, in the field, on job safety related matters. These meetings are typically conducted by the construction supervisory team (who will address the work force for which they are directly responsible) and cover two main types of meeting;

• Daily Crew Toolbox Meetings

Every day, prior to work start, the Foremen will gather their crew(s) at the jobsite for a brief review of the day work plan and a confirmation of the roster at each work front. THE CONTRACTOR practice includes a very brief set of exercises These daily Toolbox Meetings, which normally involve small groups of no more than 20~30 workers, will typically last no more than 10 to 15 minutes.

These daily morning meetings will also include at least three safety related topics; i.e. (i) a review of the specific hazards presented by today's tasks and the protective measures to be taken, (ii) a review of the Work Permits , if any, that may apply to the day work and confirmation of the permit requirements and precautions, (iii) one topical item or Safety "Thought for the Day"" which will be given to each crew site wide. Although conducted by the Foreman or Supervisor in charge, both the CONTRACTOR and Subcontractor HSE Managers and their HSE Engineers and Safety Supervisors will make a point of being in attendance at one of these meetings every day.

Over the course of every one or two week period each of the crews will have had the opportunity to have an HSE member present at his meeting

• **Weekly Toolbox Meetings**

Regular Weekly Toolbox Meetings will also be held. These will typically be held in larger groups covering a particular work area, discipline group in an area or a specific subcontractor group. They will normally be held in the mornings before proceeding to their respective work fronts and will convene at, or adjacent to, the work area. The Construction Supervisors & Foremen are responsible for forming there groups, and heading their respective groups, for the meeting.

These Toolbox Meetings will be conducted by CONTRACTOR Area Superintendents. The HSE Safety Supervisor for the area shall also participate as well as the Subcontractor's Superintendents. The purpose of the meeting is to address the following issues on a site wide basis;

1. Superintendent's observations regarding site Health and Safety issues
2. Report on Incidents/Accidents which have occurred during the past month, including causes and corrective action taken
3. Report by Safety Supervisor on JSA Action Plan
4. Status of Safety Incentive Program
5. Site Safety Topics

• Possible work hazards that may be encountered in the upcoming work and methods of eliminating or preventing them

• Health and/or other safety hazards that may be encountered on the site and methods of prevention being taken.

• Site Housekeeping status and required action.

• The HSE "Topic for the Month" will be presented to all groups.

• THE CONTRACTOR practice includes a very brief set of team exercises

THE CONTRACTOR, and Subcontractor's, Construction Managers and HSE Managers will make a point of being in attendance at these meetings each week and address the group on a specific safety topic

• Special Toolbox Meetings

In addition to the regular toolbox meetings, special meetings may be called at any time if the need arises to notify the workforce of special conditions or safety issues.

These may be called for a specific area or work group or, if necessary, for the work force as a whole. These may be called by the Foremen, the area Safety Supervisors, the Construction Supervisors or any person of authority when situations arising warrant special notice regarding the health, safety or welfare of the work force or site.

9.0 HSE PROMOTION PROGRAM

THE CONTRACTOR comprehensive Safety Incentive Program will be used for Project site activities. The program is based on the achievement of project safety goals and it rewards contributions made by both individuals and groups.

This program is nominally tied to achieving statistical goals based upon OSHA recordkeeping guidelines. However, it also takes into account manning and field conditions in different work areas and more subjective assessments regarding contributions made by the individual, or group, to such items as area housekeeping and/or general safety awareness issues.

Awards are given on a monthly basis and include monetary as well as other incentives. A cumulative points system is sometimes employed to select Quarterly or Semi-annual group winners who qualify for generous awards; either monetary or other incentives including, for example, paid time off.

Announcements and notices are used to publicize the achievements of the safety program, and the award winners, as a way of keeping everyone informed and involved.

THE CONTRACTOR program also includes a penalty clause that will be assessed on those individuals, or groups, that commit infractions of the site safety rules, practices and regulations. Serious infractions are dealt with disciplinary action; however, minor infractions (or oversights) are also noted and publicized for the education of the work force.

THE CONTRACTOR will develop a project specific safety incentive measurement and awards program, as part of the Safety and Loss Prevention Program, for the project and present to Owner for review and approval.

10.0 HSE ORIENTATION AND TRAINING

THE CONTRACTOR shall provide a comprehensive HSE orientation and training program for all THE CONTRACTOR employees on the site as well as those of our subcontractors, vendors or suppliers who will be performing work on the site, including supervisory staff and personnel who shall operate parts of the refinery in the production stages shall be included in Safety orientation and training program.

THE CONTRACTOR's program, which is a key element of the site Safety and Loss Prevention Program, generally employs the methods recommended in the Construction Industry Institute (CII) guidelines for industrial safety training.

The site training needs will range from supervisor training, craft skills updates, and new worker orientation including work task training. However, each syllabus of industrial or skills training includes a key element of safety training.

The site HSE orientation and training program will develop the skills required by our site work force to perform, supervise and manage their assigned tasks without mishap.

Prepared, directed and, in large part, conducted by the site HSE Manager and his team, the program includes;

Site HSE Orientation/ Safety Induction Course (SIC); for all persons engaged in site work activities of any nature, this orientation may vary depending on the area or type of activities involved. However, all employees, staff, labor, vendors, service agents or other persons requiring a permanent site access gate pass will undergo this orientation prior to issue of the permanent gate pass and personal protective equipment (PPE).

Supervisor Training; the Construction and Safety Supervisors are the front line leaders for, and have the most direct impact on, site safety matters at the work face on a continuous basis. Although experienced, an ongoing program of reinforcement

(and site specific) training is essential for them to effectively assume responsibility with the work force.

Employee and Craft Training; all workers will be audited for their proficiency in their area of skill. This includes our existing work force, new members and workers who are assigned to new tasks. This also applies to our Subcontractor work force.

Identified deficiencies will be addressed by our craft training program. One key element of craft proficiency is the knowledge and application of safe working practices. Therefore, regardless of proficiency, all workers will be enrolled in an ongoing safety awareness program which will address safe working practices for their discipline.

Specialized Safety Training; those supervisors, foremen and craftsmen directly responsible for the efficacy of the work permit system, the electrical lock-out procedures, emergency response procedures etc. will require special training and instruction in the specifics of these procedures and systems.

Practice sessions and test case practices will be included to ensure effective and efficient response to these special responsibilities.

10.1 SITE HSE ORIENTATION/ SAFETY INDUCTION COURSE

Site HSE Orientation Training sessions will be mandatory for all personnel working on the site. All employees, staff, labor, vendors, service agents or other persons requiring a permanent site access gate pass will undergo this orientation prior to issue of the permanent gate pass and PPE. After passing the course the label as "Safety Inducted" will be stamped

on the gate pass card and in addition one HSE induction card will be issued.

This applies to THE CONTRACTOR staff and employees and those of our Subcontractors, our service agents, vendor's representatives, etc. all of whom must undergo this orientation before being released to proceed with work on site.

This HSE Orientation will be conducted by THE CONTRACTOR's HSE trainer who will confirm attendance for all attendees before release of authorization for the issue of the permanent gate pass. The following subjects will be addressed;

1. HSE Program, Policy and Goals

2. Each individual's responsibilities towards ES&H goals
3. Basic HSE (site) Rules and Regulations
4. Employee and Supervisory responsibilities
5. Hazard identification and communication
6. Site-specific hazards and precautions
7. Location of First Aid Station; reporting procedures
8. Anomaly, Incident and Injury Reporting Procedures;
9. Emergency Response Action Plan (Incident alarms identification)
10. Use and maintenance of Personal Protective Equipment (PPE)
11. Identification and use of emergency equipment
12. Radiography awareness
13. Emergency phone numbers
14. Defensive driving rules
15. Safety incentive program
16. Other Safety Awareness items; i.e. Map of Work Areas and Muster Points,
17. Emergency Equipment (availability and use), etc.

These instructions will be conducted in the language of the work crews to ensure full understanding. Where languages other than English are required, the responsible supervisor(s) (who will be proficient in the language of his work force) will conduct the orientation with the guidance of the HSE Engineers.

A simple questionnaire shall be completed by all attendees to confirm that they are familiar with the material as presented.

All personnel shall sign the attendance list thus confirming that they have received the HSE Orientation and that they fully understand, and will abide by, the HSE rules and regulations of the site.

THE CONTRACTOR will file these records and arrange issue of the necessary PPE. They will then advise Security of acceptance for release of the permanent site gate pass.

10.2 HSE TRAINING

As noted, site training needs will range from management and supervisory training, craft skills training, and work task training for new workers. However, each syllabus of industrial or skills training includes a key element of safety training.

The site HSE training program will develop the skills required by our site work force to manage, supervise and perform their assigned tasks without mishap and includes the following;

10.2.1 HSE Training for Supervisors

The Construction Supervisor, and his Foremen, will have the most direct impact on the safety of the work site. The CONTRACTOR Safety and Loss Prevention Program emphasizes that the Construction Supervisor and his Foremen are the key persons for accident or incident prevention at the work face. They are given direct responsibility, and held directly accountable for, the health, safety and welfare of the work force under their direction. .

The site Safety and Loss Prevention Program can successfully support their efforts only If they, themselves, demonstrate and demand safe working habits in the direction of their work force and ensure that their work force is capable of applying these safe work methods, The same applies to our Subcontractor's construction supervision team and THE CONTRACTOR will ensure that they can responsibly carry out their duties in this regard. In order for these first line Construction Supervisors and Foremen, and their counterpart Safety Supervisors, to meet their responsibilities they will be fully versed in the latest practices and applications of accident prevention, safe working methods and incident response techniques.

This HSE training for the Construction and Safety Supervisors will cover the following specific HSE issues;

1. Familiarization with the site HSE Policy, Goals and Strategy
2. HSE (site) Rules and Regulations (including local regulations)
3. Site Safety and Loss Prevention Procedures
4. Safety Incentive Program details
5. Basic on-the Job Training and Motivational Skills

- Building team attitudes favorable to safety.
- Motivating for safe work practices
- Communication of safe work practices.

6. First Aid, resuscitation and rescue training.
7. The Proper Use of Safety Equipment and PPE
8. Accident Reporting and investigation procedures
9. Emergency Response Procedures and action for his area

They will be fully versed in the methodology of the JSA procedure in order to be able to apply this on an ongoing basis to their specific tasks. This requires expertise in;

10. Work Task breakdown
11. Hazard Identification and mitigation
12. Equipment handling methods
13. Accident root cause identification
14. Job Instructions for safe work procedures
15. Safe workplace practices
16. Safe handling of materials.

The course will be conducted by the HSE trainer. Attendance is mandatory for all Construction and Safety Supervisors and a select number of craft foremen.

10.2.2 HSE Training for Employees and Craftsmen

All workers will be audited for proficiency in their area of skill. This includes our existing work force, our new members and workers who are assigned to new tasks. This also applies to our Subcontractor work force. Identified deficiencies will be addressed by the craft training program. One key element of craft proficiency is the knowledge and application of safe working practices; which equates to efficient work execution.

Regardless of proficiency, all workers will be enrolled in an ongoing safety awareness program which will address safe working practices for their discipline. This will include, specific to their discipline;

- Task activities review
- Hazard identification and safety measures

- Task equipment use & safety
- Work area safety & protection
- Toxic gas (H2S) awareness

In general, and further to the HSE Orientation and ongoing Safety Awareness program, they will be reinforced in;

- Site Safety Rules and Practices.
- Methods of reporting accidents, incidents
- Importance and use of PPE
- Importance of first aid treatment.
- Locations for first aid.
- Emergency Response situations; notification, alarms
- Response & action required in emergencies

This training will be conducted by the HSE trainer for discipline groups with their Supervisors and Foremen in attendance and supporting the discussion on task and work site safety issues.

10.2.3 Specialized Safety Training;

Those supervisors, foremen and craftsmen directly responsible for the efficacy of the Work Permit System, the Electrical lock-out Procedures, Emergency Response action plan, Heavy Lift Procedures, etc. will receive special training and instruction in the specifics of these procedures and systems as they apply to this project.

They will not only be proficient in their duties, as supervisors and leaders, they will be able to train and/or educate their work crews in the importance of these procedures and practices and how to exercise them.

This also applies to the Safety Supervisors assigned to each area as well as Subcontractor's Supervisory staff with responsibility in these activities.

Practice sessions and test case practices will be conducted to ensure effective and efficient response to these special responsibilities.

THE CONTRACTOR's HSE Trainer shall initiate the following specialized safety training;

1. Excavation Permit procedures

2. Confined Space Work Permit procedures
3. Heavy Lift procedures; equipment and set-up inspection
4. Emergency Response procedures; action required
5. Fire Response training (first line response)
6. First Aid training (first line care, resuscitation, respitory care)
7. PPE and Safety Equipment; care and use
8. Scaffolding erection safety
9. Excavation safety
10. Radiographic protection & safety
11. Welding and cutting safety
12. Electrical safety and tag and lockout procedures
13. Toxic gas (H2S) awareness, gas mask and detector treatment training
14. Construction plant drivers of any kind shall carry special license and confirmed local police & Safety management.

Permit to Work procedures (Vessel Entry, Cold Work, Hot Work) will also be covered for those groups required to work in restricted areas of operation such as revamp areas or system tie-in areas with "live" systems; and during pre-commissioning of the plant when certain systems will be under progressive commissioning; i.e. water, air, nitrogen, flare, fuel gas, etc.

10.3 SAFETY AWARENESS PROGRAM

In addition to the HSE Training sessions for all employees, THE CONTRACTOR shall conduct an ongoing Safety Awareness Program that will cover all site activities.

This Safety Awareness program will be conducted by the HSE Manager and team; with the full involvement of Subcontractor's HSE staff. The program shall be directed to all employees at site and include such measures as;

1. Safety Posters will be posted throughout the site in prominent locations. They will include safety promotion materials including the HSE Topic of the Month.
2. Publication, and posting, of the site HSE Policy, Goals & Strategy.
3. Site Safety Statistics will be prominently displayed at the main entrances to the site and updated monthly.

4. Publication, for site distribution and notice, of safety statistics including;

• Total accident free Man-hours worked for the jobsite and for each contractor

• Accident and Near Miss reports and investigation results

• Examples of Accidents and Near Misses that did not cause injury due to the proper use of PPE

5. Establishment of an HSE Topic of the Month program.

6. The implementation of the Safety Incentive Program

7. Regular (daily) site surveys of site safety measures and postings will be conducted by the area Safety Supervisors, with the responsible Supervisors and Foremen, to monitor such items as excavation barricades and crossings, restricted access areas, heavy lift and equipment operating areas, elevated work areas, radiography areas, etc.

8. The daily and weekly Toolbox Meetings are an integral part of the ongoing Safety Awareness Program.

In addition to the Safety thought for the Day and HSE Topic for the Month, safety topics of interest to be addressed at these toolbox sessions will include;, work-site housekeeping, working at heights, use of lift equipment, excavation precautions, permit to work procedures, confined space work, etc.

The Safety Awareness Program will be planned and conducted by the HSE Manager and his

HSE Team who shall present the plan to the HSE Management Committee for comment and approval of content on a regular basis.

11.0 ANOMALY/ACCIDENT/INCIDENT INVESTIGATION AND REPORTING

11.1 GENERAL

A central element of THE CONTRACTOR's Safety and Loss Prevention Program is the formal investigation, analysis and reporting of all anomalies, incidents and/or accidents.

ANOMALY; can be defined as any undesirable situation having the potential to contribute to an incident. This is an incident factor, which most of the time, requires

to be combined with several other anomalies to generate an accident. All identified anomalies must be reported as the CONTRACTOR anomaly report card, which will be defined in relevant document.

Accident investigation and analysis serves to identify the causes and deficiencies that contribute to an accident and are used to identify the ways and means to avoid these incidents in the future.

The extent of the investigation and degree of analysis is generally determined by the severity and/or potential for damage or injury. However, a thorough investigation, with detail analysis, will often reveal accident causes (and damage potential) that might not be immediately obvious and would otherwise remain uncorrected.

Therefore, due diligence must be applied in the analysis of all incidents, regardless of apparent severity. The types of Incidents/Accidents which will be investigated and analyzed are generally categorized as;

1. “Near Misses”; incidents which do result in injury/damage but with the potential for serious injury or property damage
2. Property Damage Accidents; property damage accidents/incidents not resulting in personnel injury or medical treatment of personnel
3. Minor Injury Accidents; accidents requiring only local “First Aid” treatment and not resulting in further medical treatment or lost time
4. Non disabling Injury Accidents; accidents resulting in personnel injury that require medical (Doctor’s) treatment but do not result in long term disability
5. Occupational Illnesses; incidents or circumstances that contribute to acute or chronic occupational illnesses
6. Disabling Injuries or Fatalities; accidents resulting in either fatalities or extended or long term disability.
7. Environmental damage / pollution.

Responsibility for conducting the Accident Investigation process rests with the Site HSE Manager. THE CONTRACTOR’s procedure is a formal process involving collection of relevant data and information, investigation of the incident, verification of the information and analysis of the causes. Root Cause analysis procedures apply and all parties to the incident or accident are involved in each step. An Accident Investigation

Team is formed for all investigations. The participants will vary depending on the type of incident however key participants are the person(s) directly involved the line Supervisor for the area, the HSE Engineer, the area Safety Supervisor and any key witnesses. Other personnel such as Department Managers, Subcontractor Management and Supervisory personnel as well Company's HSE personnel will be involved depending on the magnitude of the incident.

The accident investigation and root cause analysis process is a systematic effort to establish the relevant facts and be able to determine what steps must be taken to remove the risk and potential for future recurrences. Preventing recurrence is the primary objective of the accident investigation and analysis process.

The results of the investigation and implementation of preventative measures will be of primary interest to, and the responsibility of, THE CONTRACTOR's Site Management team, with prime responsibility resting with the Site Manager.

Therefore, the timely reporting of such incidents is essential in order that a full and meaningful investigation can be carried out and remedial steps taken as soon as possible.

THE CONTRACTOR's accident reporting, investigation and analysis procedures will be developed to include COMPANY and project specific requirements regarding such issues as reporting systems and procedures, investigation team make-up, analysis format etc.

The procedures will also include the site specific requirements for reporting of such incidents to the local authorities. The full procedure will be implemented after review and approval of COMPANY.

11.2 DEFINITION OF TERMS

THE CONTRACTOR generally follows OSHA (Occupational Safety and Health Administration) procedures for the maintenance of occupational injuries and illness records.

The OSHA and recordkeeping regulations in 29 CFR outline specific recording and reporting requirements which comprise the framework of the OSHA recording system. OSHA categorizes injury cases into four basic types as below:

(1) First Aid Cases

(2) Recordable Work Cases

(3) Lost Time Cases

(4) Fatality

All injuries are to be computed into the Occupational Injury and Illness Summary ("OSHA 200 Logs") Form. THE CONTRACTOR will follow these OSHA and recordkeeping regulations in 29 CFR. In addition to the above, we further categorize and identify the categories as follows;

(1) Near Miss; Incident which had potential (only) for injury or damages. A near miss incident is one that does not result in injury, illness or damages**.**

(2) **First Aid Cases (FAC);** One-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care, even though provided by a physician or registered professional personnel.

(3) **Restricted Workday Cases (RWC);** Cases on which, because of injury or illness: (a)

The employee was assigned to another job on a temporary basis; or (b) the employee worked at his permanent assignment less than full time; or (c) the employee worked at his permanently assigned job but could not perform all duties normally connected with it.

(4) **Medical Treatment Cases (RMTC);** Cases where, because of occupational injury or illness, the employee requires treatment administered by physicians or registered professional. Medical Treatment Cases do not include First Aid Treatment (FAC).

(5) **Lost Workday Cases (Day away from work~ DAWC);** Cases for which, due to occupational illness or injury, the employee is unable to work on his next normally scheduled workday. The definition of the terms will be in accordance with OSHA.

(6) **Occupational Illnesses;** Any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment, It includes acute and chronic illness or disease which may be caused by inhalation, absorption, ingestion, or direct contract.

(7) **Fatality;** Any accidental death on the construction / plant site.

11.3 INVESTIGATION PROCEDURE

The investigation process includes an objective evaluation of all the facts (and opinions), statements, physical and medical evidence and related information which can be assembled for analysis.

The quality and usefulness of the information is directly related to the degree of thoroughness and conscientiousness of the investigation team. The key objective is to find the root cause of the accident so that proper steps can be taken to prevent recurrence Under the direction of the HSE Manager, due care will be taken during the course of the investigation to insure that the investigation and analysis process is directed towards this end and that an action plan or steps to prevent or control a similar recurrence is developed as expeditiously as possible.

11.4 INVESTIGATION COMMITTEE

As noted, an Accident Investigation Team is formed for all incidents. The participants will vary depending on the type of incident with the key participants being the directly involved, the line Supervisor for the area, the HSE Engineer, the area Safety Supervisor and any key witnesses.

Other personnel such as Department Managers, Subcontractor Management and Supervisory personnel as well Company's HSE personnel will be involved depending on the magnitude of the incident. Any person who can contribute to the investigation can be called on to be a member or give testimony.

Organizing a division of responsibility toward accident investigations should include a broad range of experience, responsibility, and authority. The HSE Manager has full authority to call upon any personnel he deems necessary for the investigation. Participation by an individual so called is mandatory.

THE CONTRACTOR will develop a committee structure in consultation with COMPANY HSE specialists. The following is an example of THE CONTRACTOR practice on previous projects;

Accident Type	Committee Member	Reporting Time
Minor Accident / Incident **(RWC, RMTC)**	• COMPANY's HSE Mgr • THE CONTRACTOR's Site HSE Manager/Engr/Suprvsr • Responsible Supervisor • Injured Party • Witnesses, Foreman • Other as deemed necessary by committee	Within 48 Hrs
Lost Time / Multiple Injuries **(DAWC)**	• COMPANY's Representatives • COMPANY's HSE Mgr • THE CONTRACTOR's Site Admin. Manager • THE CONTRACTOR's Constr Mgr • THE CONTRACTOR's Site HSE Mgr/Engr/Suprvsr • Subcontractor Mgr • Supt/Suprvsr involved • Injured, if possible • Witnesses, Foreman • Others as deemed necessary by committee	Within 24 Hrs
Fatality / Fire-Explosion	• COMPANY's Representatives • COMPANY's HSE Mgr • THE CONTRACTOR's Site Admin. Manager • THE CONTRACTOR's Constr Mgr • THE CONTRACTOR's Site HSE manager/Engineer • Subcontractor Mgr • Supt/Suprvsr involved • Witnesses, Foreman • Other as deemed necessary by committee.	Within 24 Hrs

11.5 ACCIDENT REPORTING

All incidents and accidents shall be reported to all concerned persons on the site, and the local authorities if required, as soon as possible in order for the correct response action to be taken.

The initial alerts and calls for assistance will be as laid out in the Emergency Response Procedures for accident or incident action. This initial reporting will include alerting the Site Management Team and this will be done within several minutes of the occurrence.

An Accident Reporting Flow Diagram will be prepared for COMPANY approval describing the levels and methods of reporting required for each type of incident. Attachment #1 is representative of the reporting hierarchy used on past jobs

An accident investigation report is always mandatory. The Investigation Committee shall be convened immediately after any incident or accident. A preliminary accident investigation report shall be submitted to the HSE Manager, and available for Company information, within 24 hours after the incident.

A full report is expected within 48 hours after a near miss incident or the accident. The full report for other, more involved, incidents may take longer. The report should not be delayed however, to be effective it must be complete in the identification of remedial steps to be taken.

The reporting formats will be developed in detail in consultation with COMPANY. The reports typically include;

• **Preliminary Incident Report:** The HSE Manager will issue a Preliminary Incident Report on all incidents within 24 hours of the incident. This will be issued to Site Manager and company for information and will indicate the action being taken regarding investigation and full reporting. Site Manager will also report to the Project Manager and safety team at Head Office within 24 hours of the accident by facsimile or telephone.

• **Detail Accident Investigation Report**: after completion of the investigation and analysis, the HSE Manager will issue the Accident Investigation Report to all concerned parties (THE CONTRACTOR and COMPANY) where it will be the subject of review for implementation of required remedial action on an urgent basis. Site Manager will issue to Project Manager and safety team at the Head Office. This is typically done within at least 4 days of most incidents.

11.6 REPORTING RESPONSIBILITIES

1. **Employees**: Every employee must report any incident or accident in which they are personally involved or have observed.

2. **Safety Supervisor or Construction Supervisor**; The responsible area Safety Supervisor or

Construction Supervisor must report an incident or an accident occurring during his working hour as soon as possible, both to obtain assistance and take emergency action and to alert the proper members of the site team. They must also complete an incident report recording their observations and actions as soon as feasible. This must be completed and submitted to HSE Manager and their Superintendents before leaving the plant site.

3. **Foremen and Witnesses**; The area Safety Supervisor shall arrange to record the observances of the foremen or other witnesses, or assist them in making reports of record. These are to be submitted to Site HSE Manager.

4. **Site HSE Manager**; Site HSE Manager would collect the reports related to an incident or an accident.

He must always keep records in accordance with the related incident reporting forms. And he must report the incident or accident to the Site Manager who will report to COMPANY and THE CONTRACTOR Head Office as per procedure.

11.7 SAFETY RECORDS AND STATISTICS

11.7.1 Safety Records

The recording and reporting of occupational injuries and illness will meet the requirements outlined in 29 CFR 1910 part 1904 – Recording and Reporting Occupational Injuries and Illnesses.

Any illness that has been caused by exposure to environmental factors such as inhalation, absorption, ingestion, or direct contact with toxic substances or harmful agents, resulting in an abnormal condition or disorder that is acute or chronic, is classified as an occupational disease. Repetitive motion injuries are also included in this category. All illnesses are recordable, regardless of severity.

Injuries are recordable when;

1. An on-the-job death occurs; regardless of time between injury and death.
2. One or more lost workdays occurs.
3. Restriction of work or motion transpires.
4. Loss of consciousness occurs.

5. Worker is transferred to another job.

6. Worker receives medical treatment beyond first aid.

The preliminary report will normally be issued within 24 hours. OSHA 101 or equivalent

First Report of Injury will normally be completed within 4 days of the occurrence of an injury at the work site. Also, the OSHA 200 log is to be completed within six days when a recordable injury or illness occurs. THE CONTRACTOR will use these OSHA formats as far as possible for reporting to COMPANY.

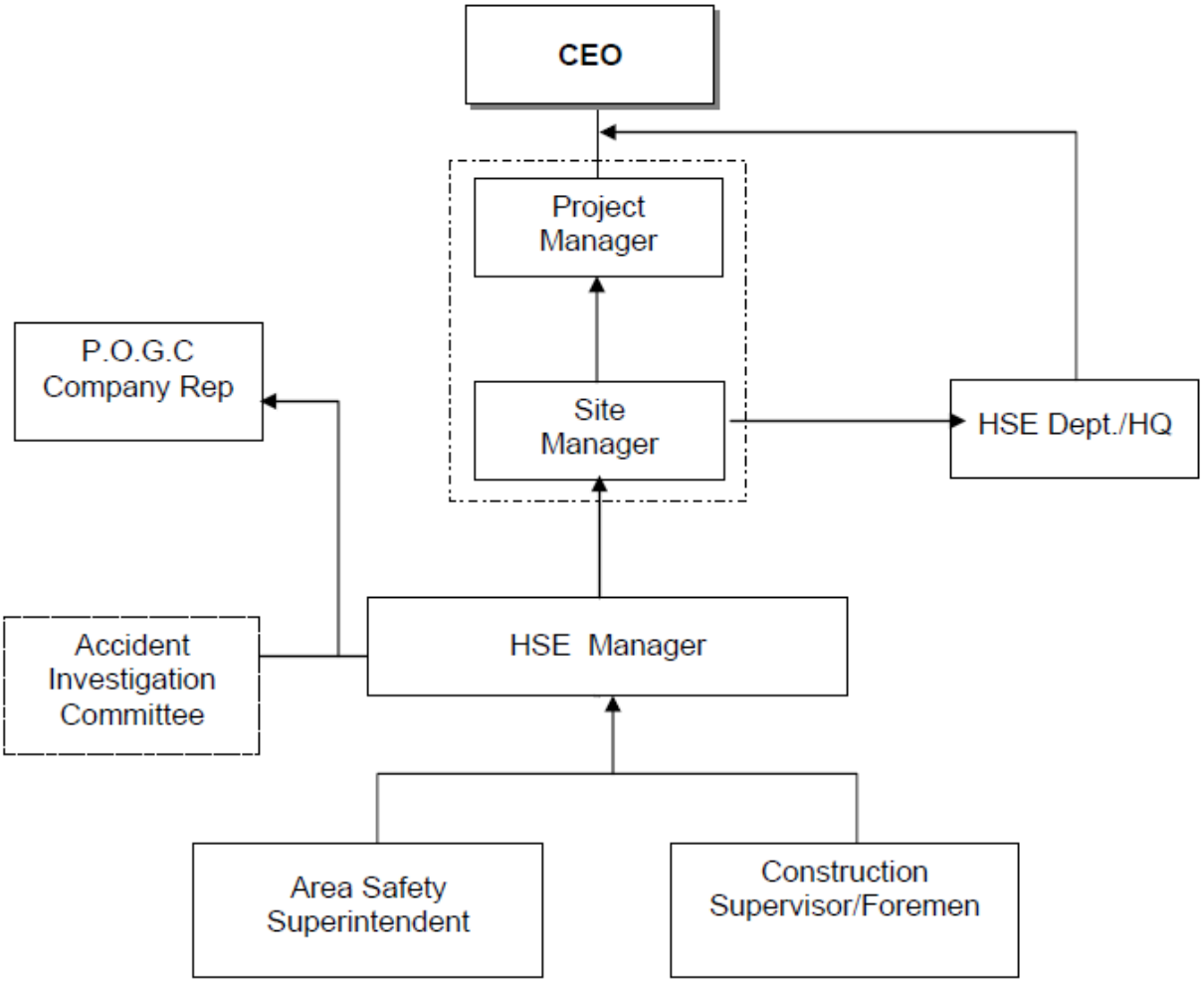
11.7.2 Safety Statistics

In addition to safety records and record keeping, THE CONTRACTOR shall record a number of Safety Performance statistics and submit to COMPANY on a monthly basis.

These Safety Statistics include I.R (Incident Rate) and S.R (Severity Rate).

THE CONTRACTOR will follow OSHA regulations for these calculations.

Other items, as agreed with COMPANY, will be included as the work commences.


CEO
Project Manager
P.O.G.C Company Rep
Site Manager
HSE Dept./HQ
Accident Investigation Committee
HSE Manager
Area Safety Superintendent
Construction Supervisor/Foremen

12.0 SUBSTANCE ABUSE PROGRAM

THE CONTRACTOR policy regarding substance abuse is a Zero Tolerance policy. For this project THE CONTRACTOR will develop a project specific program which includes COMPANY specific requirements for evaluation, detection and control at each stage of operation. This will include the Information and Education procedures for ensuring that all personnel associated with the project are fully aware of the policy and the consequences of abuse. All personnel working on THE CONTRACTOR projects are informed of this policy and, for this project, will be requested to signify their understanding and acceptance of the policy in writing prior to assignment. These project specific procedures will be developed for COMPANY review and approval at project kick-off and well prior to mobilization of the site work force.

13.0 SITE EMERGENCY EVACUATION

THE CONTRACTOR will implement an Emergency Response Plan and the procedures that will provide guidance and direction to all site personnel on the proper methods and means for responding to all manner of incidents requiring “emergency” action or assistance for the protection of personnel or property.

The Emergency Response Plan will apply to all site activities and personnel and will be modified as the project develops to accommodate the specific needs of the pre-commissioning, commissioning and start-up phases. The Emergency Response Plan will require close co-ordination, co-operation and approval of COMPANY and the local authorities; particularly in those areas and actions requiring joint or cooperative action. The Emergency Response Plan and procedures will be the subject of HSE Orientation and ongoing safety training for all employees in order that each employee knows the specific action required in these circumstances. The leaders, those with responsibility for direction of the Emergency Response Procedures, will participate in special drills to ensure they are kept current regarding changing site conditions or other changes effecting emergency response action. Regular practice “drills” through written scenarios will be held throughout the site, which will simulate emergency incidents and give all personnel the chance to practice emergency alarm recognition, and evacuation and safety response procedures.

This plan will be reviewed with COMPANY at project kick-off and developed for approval and implementation prior to mobilization at site. One key element of the plan is the procedure for evacuation of the work areas and/or the work site.

13.1 EVACUATION PROCEDURE

One key element of the Emergency Response Plan is the procedures and tools to be used for the safe removal of the work force from the work area or, if necessary, the work site. Full details will be developed, with input regarding local and COMPANY procedures, and the necessary procedures, guides and equipment (communications, alarms, etc.) put in place prior to work force mobilization on site.

THE CONTRACTOR procedures consider the following;

1. Personnel Roles, Lines of Authority & Responsibilities
2. Communication links, signals, priorities and equipment
3. Emergency Recognition and Reporting
4. Emergency Alarm signals and equipment
5. Safe distances and places of refuge; safe locations of Muster Points
6. Evacuation route selection & posting (minimum two alternates from each area)
7. Procedures for “downing tools”, securing site on evacuation
8. Procedure for Muster Point Control and Roll Call
9. Procedures for Reporting roll call, emergency aid requirements, evacuation decisions, local authority coordination, etc.
10. Site Security and Traffic Control during emergency
11. Evacuation practice “drills”, critique of response and follow-up.

13.2 RESPONSIBILITIES

(1) Construction Manager

THE CONTRACTOR practice is for the Construction Manager to act as the Emergency Response Team Commander in charge during the construction phase of the work. He has final responsibility for the decision making process during the emergency. He will be assisted by the other members of the team in their designated action roles.

(2) Site HSE Manager

THE CONTRACTOR Site HSE Manager, as a key member of the team, directs the Safety and Security staff in their actions during emergencies. With site wide access to information from his staff he will provide valuable advice to Construction Manager and the other members of the team.

(3) COMPANY

COMPANY Construction Manager, HSE Manager and others normally elect to be members of the ER Team to assist in communication between the project site and other COMPANY facilities as the need arises.

(4) Line Supervisors/Foremen

The Line Supervisors and Foreman are the key action personnel in emergencies. They are directly responsible for guiding the evacuation of the work place. They have responsibility for proper shut down of all construction site activities under their supervision, leading the workers to safety, accounting for his workers and alerting others to his needs for emergency assistance or aid.

(5) Area Safety and Security Supervisors

The area Safety and Security Supervisors will act as key ER Team communicators and action guides for their area during emergencies. They will directly support the Construction Supervisors/Foremen and maintain the communication link with the command center.

(6) Subcontractor(s)

Subcontractor staff and personnel are assigned the same authority and responsibilities as THE CONTRACTOR staff for site safety and emergency response activities and they will be trained and guided in these roles. Their supervisors in the field will be trained in the protection of their work force and they will be represented on the ER Team.

(1) Emergency, First Aid and Medical Service

THE CONTRACTOR will provide the First Aid and emergency response facilities and services as required. This will include pre-arranged access to outside, local, sources for emergency needs that cannot be handled at site. These arrangements will be made in consultation with COMPANY to ensure compatibility with COMPANY's plans for overall site emergency needs.

14.0 FIRST AID FACILITES

THE CONTRACTOR will provide and maintain the facilities and services necessary to provide First Aid medical treatment for all site personnel. This service will provide for both the minor first aid needs, which can readily and properly be taken care of on site, and for the immediate emergency aid required for those injured or seriously ill requiring more extensive care and/or treatment at outside facilities. Medical facilities and services to be provided include;

- Medical facilities and equipment such as a "site clinic" for first aid treatment, first aid/emergency medical supplies, "sick bay" services and emergency equipment.
- Qualified medical staff trained in "first aid" procedures, treatment of heat related sickness, resuscitation and life support procedures.
- Manned and ambulance service available at all times for transfer of patients from the accommodation camp and or work site to local medical or hospital facilities.
- Standing procedures, and approved arrangements, for the reception of injured or seriously ill patients at local medical facilities on an emergency basis.

14.1 MEDICAL SERVICE FACILITIES

THE CONTRACTOR will provide and maintain a properly equipped medical service facility on site for all employees. The size and location of the facility will be confirmed with COMPANY at project kick-off.

The medical facility will be properly equipped and maintained at all times. Designed to maintain sanitary conditions it will include air conditioning and dust protection along with the necessary storage cabinets for medical supplies and equipment. The examining and treatment tables and office equipment will be kept sanitized Medical service supplies shall be kept readily available in a cabinet designated for those supplies only. These supplies will be placed under the charge of the medical service attendant on duty who ensures the cabinet is well stocked at all times.

They shall also be responsible for maintaining the supplies for the various First Aid "Kits" and emergency medical equipment to be placed at various locations around the site (and in the Ambulances and Emergency Response vehicles).

They will maintain a formal register for all first aid or medical services provided and any illnesses reported.

A complete patient record file for all employees shall be kept including the medical records obtained at the time of mobilization.

14.2 MEDICAL SERVICE ATTENDANTS

Qualified medical service attendants will be on duty at all times to meet the needs of the work force for treatment. This ranges from minor illness treatment and first aid injuries to life sustaining measures in the case of major injury or illness requiring transfer to outside facilities.

They will be supplied with communications equipment to enable them to fully support the Emergency Response Plan and respond to any emergencies.

They will assist in the training and evaluation of the Area Safety Supervisors and Construction Supervision staff who are trained in basic CPR and resuscitation methods.

Designated medical service team is organized and trained to render immediate assistance.

14.3 EMERGENCY VEHICLES

THE CONTRACTOR will provide a dedicated emergency vehicle (ambulance), properly equipped and outfitted to transport injured personnel to the nearest designated health care facility.

This vehicle will be on call (standby) at the site at all times and the driver will maintain contact with the Medical Attendant in charge at all times.

The HSE Manager, Engineers and area Safety Supervisors vehicles shall all be equipped with emergency first aid supplies.

14.4 MEDICAL ATTENTION

The Supervisors, Foremen or Safety Supervisors will be trained and can provide first line aid in the case of site injury. However, all personnel must know the procedures for obtaining assistance or treatment.

All employees will be informed of the following; either in training sessions or through suitable site postings (and/or as personal Reference Pocket Cards which they can keep on their person);

a) Cautions regarding Heat Stroke, etc.

b) Where they can get treated

c) Person to contact for assistance

d) Emergency Numbers to call to get help

e) Caution on moving injured persons; unless necessary to prevent further injury

f) Report all incidents immediately, no matter how minor

15.0 HOUSEKEEPING & TIDINESS

Good housekeeping is an important part of the site Safety and Loss Prevention Plan. Good housekeeping practices, when practiced as part of normal work methods, will lead to increased productivity, reduced materials and tools losses and a much safer, more hygienic and easier area in which to work

THE CONTRACTOR will ensure that the tools, equipment and resources necessary for the maintenance of site cleanliness and order are provided. The work force will also be encouraged to play their part in maintaining site housekeeping. The Safety Incentive Program contains both rewards and penalties for housekeeping practices. THE CONTRACTOR will provide;

• As part of the Hazardous Waste and Materials Control Plan all materials designated as hazardous and which may pose a health risk to man or environment will be collected, stored and disposed as per MSDS-Material Safety Data Sheet. They will not be left and exposed to the work force.

• Suitable sanitary and washing facilities and supplies in appropriate locations and orientation throughout the work site. These will be located to give the work force ready access and will be maintained to ensure the hygiene of the area.

• Trash dumpers in adequate numbers and locations throughout the construction site and shops and laydown areas. Trash collection and removal services will be operated daily to ensure no buildup of trash.

However, the effectiveness of the program will depend on the work practices of the work force. To this end THE CONTRACTOR will employ the following steps;

The HSE Team will assist the construction work force in each area in maintaining a clean and organized work area. They will assist the supervisors in organizing house-keeping exercises throughout the day to remove trash and excess materials.

Construction equipment (small cranes, fork lifts, front end loaders, (with operators and labor) will be assigned, as part of their regular duties, to collect and remove rubbish materials to designated locations as required throughout the day. It is the responsibility of all employees, supervisors and craftsman alike to practice good housekeeping as part of their normal work practices. They will be trained, and directed as follows; (1) Scrap material and rubbish are fire and accident hazards. This is applyed to all rubbish including excavated soil, old packing crates, etc. The Supervisors/foremen are to arrange for their removal.

(2) Trash barrels will be located throughout the job site; in addition to the Waste Bin at each work area. They must be used for collection of scrap from the work areas; if one is needed in a work area, the Supervisor must arrange.

(3) All work materials temporarily stored on site will not be left as work or access hazards. All surplus materials will be returned to the stockpile at the completion of each job. This applies to formworks, piping materials, scaffolding materials, electrical/instrument materials cables, etc.

(4) Tools, when not in use, will be put in the local gang box or returned to the tool room.

Old paint or solvent containers will not be used as tool carriers.

(5) Electrical cables, welding cables, utility hoses and pipes, etc. will be placed through the work area in a safe manner such that they do not pose an access hazard and are not in a position to incur damage from regular construction access or work.

(6) Spilled liquids will be wiped up immediately. If assistance is required, the supervisor will arrange for the necessary cleanup. Place oil soaked rags in approved metal containers and remove from the work area before vacating the area for breaks or shift changes.

(7) Soiled clothes, food scraps and soft drink bottles / cans will not be allowed to accumulate in the work area. If they are carried into the area they will be removed to the trash cans provided.

(8) No food or snack items will be carried into the work area. Covered break areas will be provided and waste item (sandwich wrappers paper bags and food waste) will be placed in the covered containers provided. Trash containers will be emptied and cleaned regularly and all refuse disposed in designated dump areas.

(9) Toilet and wash-up facilities (drinking water supplies) are provided for the convenience and comfort of the work force. The Supervisors and Safety staff shall ensure they are maintained to hygiene standards.

The HSE Manager and Safety Engineers shall carry out daily audits of the housekeeping in all areas. They shall arrange immediately for the area Safety Supervisors to organize remedial action where required; and ensure that the equipment and labor is made available to help them

They shall also be responsible for ensure the tidiness, and clean up, of such common areas as the perimeter fence and roads, the office parking areas, materials stores areas, etc.

16.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

16.1 GENERAL

THE CONTRACTOR will provide the full range of personal protective equipment and clothing to ensure the safe working of the work force. As noted, no personnel will be admitted to the working areas prior to receiving suitable PPE. This is applied to visitors to the site who shall also be issued with the PPE required for their specific activity.

All gear will be “purpose approved” for the service and selected with the advice of the HSE Engineers and Safety Supervisors for the specific task. COMPANY’s HSE specialists will be provided with a list of the equipment and types prior to mobilization. The items to be provided include;

16.2 BODY PROTECTION

Protective clothing and equipment are provided by THE CONTRACTOR to all its employees engaged in work where such devices are required to protect them from injuries and health hazards. No employee will be permitted to work without wearing the correct protective clothing. Clothing and equipment shall be kept clean and serviceable and any defects shall be reported immediately to the CONTRACTOR HSE department.

Other protective equipment such as face shields and/or aprons for the handling of chemicals will be identified on the work permit, and provided by THE CONTRACTOR.

Personnel working on or about rotating machinery shall not wear loose fitting garments.

16.3 HEAD PROTECTION

Approved safety helmets shall be worn at all times when working or visiting any of the work site. These areas will be designated and posted for clear identification.

Special types of helmets/shields will be available to those working with chemicals, shot or grit blasting and welding.

16.4 EYE AND FACE PROTECTION

Protective goggles, safety glass spectacles, visors or screens of approved type shall be worn to give protection to the face and eyes against the effects of welding arcs, sparks, chipping, hydrocarbons, chemicals and injurious light rays.

Eye protection is required in a wide range of activities against flying particles, foreign bodies, chemical fumes etc. The whole face needs protection while carrying out hazardous activities such as welding and chemical handling, They shall wear clear spectacles in nighttime and poor illuminated areas. Tinted safety spectacles may be used for additional protection against sun glare and UV radiation in some areas.

16.5 HEARING PROTECTION

Earmuffs or earplugs shall be worn in areas designated as “Noise Areas” as normally more than 85 dB or whilst operating equipment with a high noise level, such as

generators, air compressors, high pressure service lines, drilling/piling equipment, etc. THE CONTRACTOR will supply ear protection for all work requirements.

16.6 FOOT PROTECTION

Only approved safety footwear shall be considered satisfactory for use, when working in or visiting operating areas and / or work sites. Footwear having external steel toes or heel plates or fitted with metal studs will be strictly forbidden in all areas. Approved safety boots which are ankle high, provide protection against impact, compression, oils, heat, electricity, static, slipping, and penetration by sharp objects will be issued to all persons on the work site.

16.7 HAND PROTECTION

General purpose hand gloves provide protection against usual job hazards such as slipping, abrasion, dirt, oil, grease and moderate heat. These shall be worn at all times during the normal course of work.

Suitable heat protection gloves will be provided for welders/fitters exposed to welding, cutting flames, heating torches etc. and shall be worn at all times when tasks requiring this type of protection are performed. Gloves should not be worn while working with running rotating equipment to prevent the risk of entanglement.

Special purpose gloves will be issue for those handling hazardous materials or chemicals.

16.8 SAFETY HARNESS AND LIFELINES

Safety harness with lifeline shall be worn when any work is carried out from an exposed position and 2 meters or more above ground. Static lines will be installed for use at elevation along pipe racks and structures.

All persons required to work in confined spaces where there is a deficiency of oxygen or which contains toxic or noxious gases or fumes will be subject to the provisions of the Confined Space Entry Work Permit. They will wear a safety belt and life line in addition to the appropriate breathing apparatus. The “free” end of the lifeline shall be under the control of a second person safety positioned outside of the confined space

or vessel, He shall keep the wearer under constant surveillance and shall be prepared to withdraw him immediately should the need arise. The second person shall be fully equipped with safety equipment including ready for use of breathing apparatus. Instructions shall be given by recognized rope signals.

17.0 FIRE FIGHTING EQUIPMENT

THE CONTRACTOR will provide all necessary first-aid fire-fighting equipment to protect the facilities, materials, equipment and personnel on the construction site. This is for first line protection and additional response measures will be arranged and included in the Emergency Response Plan and procedures.

In addition to portable fire extinguishers of the appropriate type, which will be positioned as required throughout the site buildings and work areas, fire blankets, sand buckets and water barrels will be placed around the site to suit the work/fire hazard type. Although it is limited in quantity and pressure, fire hoses will be supplied for emergency use; supplied from the service water system around the work areas.

All equipment will be regularly inspected, and arrangements for maintenance made, by the HSE Team. This includes the inspection and maintenance (charging) and certification of same for the portable extinguishers. A record of use and status shall be maintained up to date.

17.1 GENERAL GUIDES

(1) These equipment will not the used for any other purpose, except for fire-fighting. No one will be allowed to tamper with the seals, labels, operating instructions etc., wherever provided on the equipment by the HSE Team.

(2) The boxes containing fire-extinguishers, hoses, blankets etc. shall not be used for storing any other materials.

(3) The area Safety Supervisors shall check the fire equipment in their respective areas periodically. Any abnormality in fire extinguishers (such as missing, discharge, damage etc.) shall be reported to the HSE Engineer immediately for remedy.

(4) Smoking is prohibited on the site except within designated smoking booths and locations; which shall be equipped with approved electric lighter. Extinguishers will be located at each area.

(5) Fire extinguisher selection table.

FIRE RISKS	EXTINGUISHING AGENT				
FIRE RISKS	WATER	FOAM	CO2	DRY CHEMICAL POWDER	HALON CLEAN AGENT
Wood, paper, textile, etc	YES				YES
Petrol, oils, fats, Paints, etc		YES	YES	YES	YES

FIRE RISKS	EXTINGUISHING AGENT				
FIRE RISKS	WATER	FOAM	CO2	DRY CHEMICAL POWDER	HALON CLEAN AGENT
Gases			YES	YES	YES
Electrical			YES	YES	YES

18.0 WORK PERMITS

Working in a petroleum / petrochemical plant involving hydrocarbon and toxic material presents special risks and, in order to provide safe working conditions, a Work Permit system shall be followed. This is a comprehensive permit to work system and will be reviewed and agreed with COMPANY prior to work in any area or on any systems deemed to be potentially hazardous and subject to the Work Permit System for the operating plant.

18.1 CONSTRUCTION WORK PERMIT SYSTEM

Construction activities carried out work areas remote from an operating plant, and normally protected from adjacent hazardous areas, are normally designated as suitable for uninterrupted “hot work” etc.

However, a construction permit to work system will still apply for certain activities carried out in these unrestricted work areas. This applies to the following activities for which a specific authorization is to be obtained from the authority having jurisdiction over the work.

(1) Connections and work on electric power supply systems and equipment

(2) Connections to water supply networks from outside sources

(3) Installation of stores for cylinder gases, highly flammable liquids, paint and similar hazardous materials

(4) Storage of sealed radioactive sources, explosives etc.

(5) Entry in a space with potential for exposure to hazardous materials

(6) Entry for work in a confined space with potential for limited HSE air supply

(7) Closure of site roads for the purposes of excavations and other activities which will obstruct road traffic

(8) Excavations where the possibility of underground services exist

The Construction Work Permit procedures will be authorized by the HSE Department. The system will operate under the supervision and direction of the area Safety Supervisors who will maintain and audit the efficacy of the system and compliance.

18.2 FUNCTION OF THE CONSTRUCTION WORK PERMIT

The basic purpose of the Construction Work Permit system is to prevent injuries or harm to personnel, protect property from damage and ensure that all work is carried out in the safest possible manner. The Work Permit also fixes responsibility and authority of each party for the safe execution of the works.

It should be clearly understood that adherence to the system does not in itself guarantee freedom from risk. Therefore, all personnel involved in the task shall ensure that safe practices prevail throughout the work period, The Construction

Works Permit system is devised to allow work to be carried out within the designated period and construction areas. The work permit serves the following functions.

- Proscribe the nature of the work and the way of execution.
- Specify the places and equipment on which persons are, for a specified time, allowed to work.
- Proscribe the conditions (isolations, gas-test, ventilation, etc.) that must be observed during the work.
- Details any remaining hazards and precautions to be taken.
- Bring to all parties' attention the steps that have been taken and that shall be maintained to make the area/plant safe for work to be carried out.
- Gives written permission for work to be done,
- Provides for auditing and reconfirmation of safe working conditions during the course of work. Typical rules of work apply to the Construction Work Permit such as;

(i) If work is not started, or is stopped for any period, due to safety considerations, etc., the issuing authority shall revalidate the permit before the work is started or resumed;

(ii) All work permits are invalid when fire/gas or emergency alarms sound, Work permits are to be revalidated after the all-clear alarm is given;

(iii) If work is not completed during the time for which the permit was issued, the person responsible for performing the work shall be responsible also for obtaining revalidation.

18.3 CONSTRUCTION WORK PERMITS

The following types of work permits, although not normally applicable to most work, may apply in certain specific cases to construction work carried out in the designated "unrestricted" work areas;

(1) Excavation Permit

An Excavation Permit is required for any excavation in an area where the absence of existing underground facilities could not be confirmed, there is existence of risk of falling and/ or risk of collapsing.

(2) Cold Work Permit

A Cold Work Permitting system is required for all general construction work on the plant and equipment that does not involve activities related to Hot Work as described below. This will provide for general observance and surveillance of safe work practices; and provide an audit tool for work safety.

(3) Hot Work Permit

A Hot Work Permit is required for work carried out in the construction area if the use of a local source of ignition is capable of igniting flammable gases, liquids or any other materials which may be present. Examples in the construction area are welding, burning, grinding, open fires, around confined stores of chemicals, gases, etc.

(4) Confined Space Entry Permit:

It is required for personnel's entry into the confined spaces which might be subject to presence of hazardous materials or presence of a deficiency for HSE. Deep manholes subject to ground water leakage or tall vessels with no controls on manhole closure are just two examples.

(5) Electrical Permits

Prior to work on electrical circuits/equipment, an electrical permit shall be used. The authorized Competent Person shall isolate the power from sub-station. If a multi lock system is required, each concerned person shall register as required.

(6) Radiography activity Permit

(7) Road closure Permit

(8) Pressure test

(9) Post Weld Heat Treatment (PWHT) permit.

The detail Construction Work Permit Procedures will be developed for COMPANY review and approval prior to work start.

A Work Permit Procedure, based on COMPANY's system, will be established prior to any works in COMPANY operating areas or on any of COMPANY's systems.

A commissioning Work Permit System will be developed to specifically cover the pre-commissioning and commissioning period when specific systems and areas become progressively "live" and subject to operational safety restrictions.

19.0 WORKING AT HEIGHT (FALL PROTECTION)

THE CONTRACTOR safety practices take special note of the need for safe working practices for working at height. The Safety and Loss Prevention Program will include extensive regulations and guides on the methods and safety equipment to be used when working at height. Of equal importance is the expertise applied in the selection of this equipment and the working methods used. The training of the supervision and craft forces involved in this work, and the competent Safety Supervisors who will audit and support the work, is central to the program. The detail procedures to be presented to COMPANY for approval will cover;

19.1 SCAFFOLDING

All scaffolding and staging will comply with recognized standards and will meet the following minimum requirements.

1) Only metal parts will be used for scaffold framing; which shall be maintained in safe and good condition and free from corrosion; or replaced.

2) All materials used for scaffolding will be inspected and accepted by the Scaffolding Supervisor on each occasion before being issued for use. No materials, other than those specifically designed for the purpose, shall be used for scaffolding.

3) The Scaffold Tag system of verification of inspection, readiness for use and release will be used for all scaffolding. The Scaffolding Supervisor and authorized area Safety Supervisor shall operate this system for all areas. The efficacy of the system will be audited by The HSE Engineers on a regular basis.

4) All scaffolding will be erected by qualified crews under the direction of supervisors and foremen qualified and knowledgeable in the job. The standards of erection will comply with recognized rules and regulations and include such basic measures as;

(a) Scaffolding will be securely supported, and where necessary braced, to ensure stability. Unless constructed as an independent scaffold, it shall rigidly connect to an adjacent building or Structure 6 mm wire minimum shall be used for lashing. (b) All platforms, scaffolds and other workplaces will have edge protection consisting of an upper rail not less than one meter in height above the walkway and have at least one intermediate rail. Toe boards shall be fitted to all scaffolding.

(c) Where permanent handrails have to be removed from elevated platforms; suitable scaffold pole, or wire rope, handrails shall be fitted in their place.

(d) Any load bearing scaffolding should be constructed to a design which has been approved by a competent person.

(e) Scaffold boards of proper thickness shall be used; these shall be at least 210 mm wide.

(f) The spacing of board supports shall depend on the thickness of the boards used and the load to be carried out. There shall be at least three supports. Support for boards shall not be more than 2.5m apart. (g) Board shall be end butted and close boarded throughout. Overhanging of boards of any thickness shall not exceed (4) four times their thickness and not less than 50 mm.

(h) Working platforms are to be used only as a footing; they shall be at least 610 mm wide. If small quantities of materials are to be put on them, the platform width shall be increased to 813 mm wide.

(i) Parts of staging, tools and other articles and materials shall be properly lowered and shall not be thrown down from a height, They shall be raised by rope or other suitable means and not carried on the person.

(j) THE CONTRACTOR's representative and watch man shall ensure that no loose articles and materials are left lying about in any place from which they may fall on persons working, or passing, beneath.

19.2 LADDERS

1) All ladders shall be made of aluminum or wood, shall be factory made and shall be of sound construction and shall be approved by the competent person. If the work is being done in and around the electrical equipment and/or cables, only wooden (non-conductive) ladders shall be used.

2) No ladders with treads nailed to the stringers or which are in any other way faulty shall be used,

3) Unless prior written consent by the competent person has been granted; no ladder shall exceed 3.7m in length.

4) Wooden Ladders shall not be painted. Clear varnish or polyurethane is acceptable.

5) All ladders will be used in a safe manner and within their limits of design and purpose. Typical of these rules are;

(a) The use of ladders in a vertical or horizontal position as scaffolding is forbidden.

(b) It is essential that before any ladder is used, the position of the ladder is safe and that it is secured at the top, or held firmly at the base. Where possible the angle of the ladder should be 70° (4 to 1) ratio.

(c) Every ladder should, where practical, extend for at least 1.0m above the landing place, or above the highest rung reached by the feet of the person using it.

(d) Metal ladders only shall be used for structural steel erection access and will be secured directly to the (a single) section with approved bindings. Fall protection gear is required when using such access.

19.3 SUSPENDED WORK BASKETS

The use of suspended Workbaskets or manages will be used when other means of access to the work area are extremely hazardous, or not possible, due to location, design or site conditions.

Alternate methods and safety requirements will be investigated before using the workbasket as an option.

However, when necessary for the work, the use of suspended work baskets will be subject to very specific safety design and use procedures and standards. These include;

1) The use of the workbasket will require approval by the HSE Manager, Area Safety Supervisor, Construction Manager, Rigging Engineer, Rigging Supervisor and Rigging Foreman.

2) The Rigging Engineer, qualified and competent in structural design, shall confirm the design of the workbaskets and the calculations of the Rigging Engineer.

3) The workbaskets shall be inspected and tested by Third Party Authority (TPA) before commencement to work.

4) The Rigging Engineer shall perform a full rigging design study (to THE CONTRACTOR Heavy Lift Design Standards) for the set up and hoisting gear to be used.

5) The hoisting equipment, (ropes, crane/hoist, shackles, etc), the lift set-up and the operators will all be subject to final inspection and formal release as per THE CONTRACTOR standard procedure for heavy lifts.

6) The Construction Supervisor, Foreman and work crews shall be confirmed (by the area Safety Supervisor) as competent persons for the work methods that apply to the use of a suspended work basket at height.

7) The authorized Rigging Supervisor shall be in charge of the operation from start to finish. The safe working practices that will apply include;

(a) In no case is a workbasket to be us used as an "elevator"

(b) Employees shall keep all parts of their bodies inside the workbasket during raising, lowering and positioning.

(c) Hoisting of employees shall be discontinued upon indications of any dangerous weather conditions or other impending danger.

(d) The workbasket shall be hoisted just above the ground, load tested (200%), inspected to assure that it is secure and properly balanced, and certified before employees are allowed to occupy the workbasket.

e) Employees being hoisted shall be in continuous sight of and in communication with the Rigging Supervisor or signal person. If at any time, they cannot see hand signals or hear radio-relayed signals, he shall stop all operations until he confirms that they can safely exchange signals.

(f) Employees occupying the workbasket shall wear a safety harness with a lanyard appropriately attached to the source lifting device.

(g) Lifting bridles on the workbasket shall be designed to minimize tipping of the basket due to the movement of employees occupying the basket.

(h) A 1m high guardrail for perimeter protection of personnel within the workbasket shall be maintained.

19.4 FALL PROTECTION DEVICES

THE CONTRACTOR will provide all necessary safety equipment needed for the safe working at height. All such equipment shall be designed for the purpose and approved/certified for use These items include;

1) Safety Harnesses of designs to suit use; full body harness, safety belt, etc.

2) Safety Lanyards; steel ropes or manila ropes with safety connectors for securing the safety harness to a static line or safe part of the structure.

3) Static Line; A wire rope tightly suspended between two members of a structure for the attachment of lanyards and giving fall protection during movement along the structure; i.e. say in a pipe rack structure.

4) Life Lines; Vertically suspended steel rope for securing the safety harness to the structure or static line with at least 2700 kg dead weight capacity.

5) Safety Nets; Nets hung under elevated work areas from adjacent structural members to protect against (catch) falling objects.

All fall protection devices will be issued by the HSE Department who will ensure that they are to be used for the intended purpose and that the work force knows the proper uses. Regular inspections of use and condition will be carried out by the area Safety Supervisors (qualified as competent persons for this equipment) who will take immediate action to remedy any fault in condition or use.

19.5 INSPECTION AND AUDIT

The HSE Department will maintain a record of all fall protection equipment and the issue of same. They will ensure that certification is in order for all items and, with regular inspection, confirm continued suitability for use.

The area Safety Supervisors will assist in auditing the condition and use of these items and ensure that unsuitable equipment is destroyed and the records updated.

The HSE Engineers will conduct regular inspections of both equipment and the application of the procedures applicable to use. These reviews, with input from users and competent supervisors, shall be used to implement any remedial action considered necessary by the competent persons for the continued safety of the work force.

20.0 ELECTRICAL SAFETY

THE CONTRACTOR will prepare site specific procedures defining electrical safety requirements and precautions for those employees working on or near electrically

operated equipment and tools, or with cause to work on the construction power suppy system. This will cover the following topics and will form part of the Safety and Loss Prevention Program procedures manual.

20.1 ELECTRICAL HAZARDS

The construction site will present a number of potential hazards form the use of electrical tools and equipment, and the electrical power supply which extends throughout the work site and each of the working areas. The hazards from electrical fault or mishap on the construction site are severe and ever present. They include;

1. Electrocution or electrical shock which may kill or cause serious injury; within seconds and with currents as low as 30 mA at 50 Volts and 60 Hertz.
2. Overheated electrical conductors may cause burn injury and ignite flammable materials.
3. Switching or sparking of ordinary electrical equipment in flammable atmospheres may cause fires and explosions, even a small spark from a battery-operated appliance may have sufficient energy as a source of ignition,
4. Electrical arcing and flashover from improperly operated switches, etc. may cause burn injuries.

Accordingly, proper care will be exercised when installing, operating and working around such electrical equipment and systems on the site.

The Safety and Loss Prevention procedures for site electrical system standards of design, installation and use will protect against these hazards.

20.2 ELECTRICAL SAFETY MEASURES

The electrical safety procedures to be applied on site will include the training/orientation of both the Safety Supervisors and the work force in the hazards that can be encountered and the safe working measures needed to protect against injury or damage.

This will include;

1. Identification of typical hazards
2. Precautions to be taken in the use of site electrical power systems

3. Precautions in the use of electrical tools
4. Precautions when working around temporary supply systems in the work place
5. The types of Electrical Hand Tools allowed for site work
6. Static Electricity; causes and hazards and remedial steps
7. The Approvals procedure
8. The Electrical Work Permit procedure

20.3 ELECTRICAL WORK PERMIT

All electrical works on the construction power supply and distribution systems will only be carried out by the authorized Electrical craftsmen under the supervision of an authorized (competent person) supervisor for electrical works.

This work will require an Construction Electrical Work Permit and all work will be carried out under the Electrical Work Safety Procedures which THE CONTRACTOR will publish for the site.

20.4 ELECTRICAL SYSTEM ISOLATION

It is mandatory to ensure the positive isolation of the electrical parts being worked on from the possibility of energizing during the work. The extent and method of isolation required will depend on the nature and location of the works.

This will determined by the competent person in charge, and confirmed by the crew Foreman, before application for the work permit. In any event this decision will follow established guidelines and procedures for verification. These include;

1. Wherever the possibility of electrical shock or injury is possible due to inadvertent equipment starting, locking of power circuit at the supply point/substation is mandatory.

2. When electrical circuits/equipment is fed from two different sources of supply, both sources of power to be switched off and tagged / locked. Before the work permit is released for work, it is essential to reconfirm that the equipment/facilities to be worked on is electrically safe and electrical power is isolated to the extent necessary for the safe conduct of the authorized work. For this purpose THE CONTRACTOR uses the Lock-Out and Red Tag procedure.

20.4.1 LOCK OUT SYSTEM

The keys to the locks shall be retained by the respective locking authorities till the job is completed and the circuit is ready to be energized

Electrical permit for documenting is used by electrical department controlling electrical isolation and lock out and authorizing work on electrical circuit/equipment

When multiple crafts are involved the multi-lock system shall be followed

Multi-lock system and red tag system shall be used and the name of parties involved shall be indicated on this work permit.

Multi-lock system (lock-out) is used to prevent injury by accidental energizing of equipment, while it is attended by different crafts

(1) The executing part and issuing part will jointly decide the requirement

(2) The issuing part of the work is giving permit to competent electrical person for isolating the electrical equipment from sub-station.

(3) The competent electrical person and executing part install their locks in the multi-lock pad by different color and they shall test de-energizing by pressing the local switch

(4) Then both parties sign on the work permit

(5) Each lock shall be numbered and the key shall be same number

(6) After locking, the person who installs the lock is the responsible custodian of the key locks shall be removed by individual craft after completion of their jobs

(7) If the custodian of the key has to leave the site, responsibility should be transferred by renewal of work permit

(8) Electrical department shall be the last party to remove the lock only after receiving the necessary permit

(9) In case only electrical department is involved they shall use single lock.

20.4.2 CAUTION TAG-OUT SYSTEM

A basic Red Tag system of notification and caution may be used (“Danger – Do Not Operate”) however this will be limited to minor electrical jobs carried out by authorized electrical persons.

21.0 TRAFFIC SAFETY

21.1 GENERAL

Only vehicles which have been authorized by THE CONTRACTOR, and verified as suitable for use, shall be given access to the work site. A vehicle entry permit will be required for all vehicles entering the site. This will be authorized by THE CONTRACTOR

HSE and Security department, after confirmation of fitness for use, and will be restricted to the areas and uses designated on the permit

All vehicles being driven on site shall be registered for use in accordance with Iraq Country's law and all operators in possession of valid operator licenses for the vehicle type. THE CONTRACTOR is responsible for maintaining all Contractor supplied vehicles and equipment (including subcontractor's vehicles and equipment) on the site in an "as certified" condition during the validity of the certificate.

The regulations for use on the site will be the subject of driver orientation sessions which will be held by HSE Department for all authorized drivers. A site driving/operating permit will only be issued after attendance at orientation and performance satisfactory to HSE department. Visitors, supplies and others requiring entry will be made aware of the regulations and will be subject to same upon entry.

21.2 TRAFFIC RULES

Persons authorized to drive in work site area shall follow the traffic regulations applicable within the area,

The regulations will be published, posted and distributed for all persons. Traffic signs will be posted in all areas clearly signifying the regulations and conditions that apply.

International posting will be used. When special instructions are posted they will be in Farsi and English. Emphasis will be placed on;

- Equipment Safety; suitable for use
- Safe (slow) and courteous Driving
- Safe Parking practice (use of designated areas)
- Safe stopping practices (avoiding access restrictions)

- Safe haulage and loading practices
- The speed limit is 35 Km/hr for on-site driving.

Safe (and smart) driving and operating practices will be strictly enforced.

Persons violating the traffic regulations will be liable to disciplinary action and removal of privileges; i.e. inability to perform duties can lead to dismissal.

22.0 ENVIRONMENTAL PROTECTION (wastes disposal)

THE CONTRACTOR will develop detailed procedures covering the handling, treatment and disposal of liquid and solid wastes generated in the course of the project. These Waste Management Program procedures will strictly comply with the procedures for hazardous materials and waste management described in the Licensor's "Environmental Information Report

This applies to both the construction site and THE CONTRACTOR's camps located inside the boundary of plant

22.1 WASTE MANAGEMENT PROGRAM

Concurrent with the preparation of the initial work schedule, THE CONTRACTOR shall prepare and submit for review to the COMPANY Management Program "Waste Management Program" that details sources and disposal methods for all liquid and solid wastes. The program will be in accordance with the recommendations of the "Project Environmental Assessment" which will be prepared by THE CONTRACTOR to outline the basic environmental framework for project execution Local/international regulations and/or other engineering requirements to be followed will be the current issues.

22.2 WASTE HANDLING AND DISPOSAL

(1) The solid waste portion of THE CONTRACTOR's waste disposal program shall include provisions for temporary site storage, collection, transportation and disposal practices.

(2) Solid waste will be stored temporarily such that it will not constitute a fire, health, safety or environmental hazard. (3) All refuse containing food wastes shall be stored

and covered in closed containers which are leak-proof, durable and designed for safe handling and easy cleaning.

(4) Storage containers shall be of sufficient size and number to contain all solid wastes generated between collections.

(5) Construction debris and demolition material will not be allowed to accumulate such that it presents an environmental health and/or safety hazard.

(6) Discharge of construction waste: Unloading of solid waste shall be confined to as small an area within which equipment can safely and efficiently operate.

(7) Unauthorized Dumping; Provision shall be made to restrict access and dumping of unauthorized material.

(8) Incompatible Wastes: These wastes will not be placed in common storage or containment areas. Exceptions to this include the intentional combination of certain hazardous wastes to achieve neutralization and detoxification by qualified waste management personnel.

(9) Environmental / Waster Pollution: Landfill operations shall not cause or allow the discharge of contaminants into the environment or adversely impact surface or groundwater systems.

22.3 AIR EMISSION MITIGATION

(1) THE CONTRACTOR shall comply with Local and/or international Regulations for the mitigation of ambient air pollution; i.e. Ambient Air Quality and Source Emission Standards.

(2) All vehicles will be properly maintained to minimize excessive exhaust emission and shall comply with Local and/or international Regulations such items as allowable limits of pollutants emitted to the atmosphere from gasoline and heavy duty Diesel engines. (3) Dust abatement will be accomplished by properly wetting the work area prior to commencing the work and/or other approved measures.

22.4 TRAINING

Environmental training program included courses such as Waste management, spill response and Chemical Handling, etc…, will be held to promote the environmental awareness and competence of the workforce on site.

22.5 ENVIRONMENTAL INSPECTION AND MONITORING

To implement the Environmental Management System into the Project site, the following items shall be inspected continuously;

1. Hazardous Chemical and Waste Material collection/storage/disposal areas.
2. Oil and Chemical Spillage.
3. Solid Waste Materials (rubbish, garbage, etc…) generated from the Camps and Site areas.
4. Dust control on the unpaved roads.
5. Housekeeping around all Site Areas.
6. Wastewater Treatment Plant and Incineration Plant.

23.0 MEDICAL SURVEILLANCE

THE CONTRACTOR will maintain a medical surveillance program for all personnel on sight. This is in keeping with the need to protect the health and welfare of all employees and will cover site specific hazards.

23.1 EXAMINATIONS

Medical examinations and consultations are to be made for each employee, as follows:

1) Prior to assignment
2) At least once every twelve months thereafter (unless the attending physician believes a shorter interval is necessary)
3) At termination of employment or when employee is reassigned to a different area.
4) In any event of, or symptoms indicating possible, overexposure to hazardous substances or health hazards.
5) When an employee has suffered an injury of any kind.

6) Employers engaged in hazardous waste or other hazardous exposure operations will be subject to regular medical surveillance in line with the hazard involved.

Medical examinations will include a medical and work history check and will place emphasis on any symptoms related to the handling of hazardous substances and health hazards and the employee's continued fitness for duty, including the ability to wear any required PPE under the conditions (i.e., temperature extremes) that may be expected at the worksite. All employees will be subject to tests for blood borne pathogens and infectious diseases which would pose an exposure risk to the work force. A vaccination program, and preventative education, will be in place for exposure control purposes.

23.2 HAZARDOUS MATERIALS

All employees shall receive education and training in the proper safe handling of hazardous materials prior to assignment, including information on the potential effects of excessive exposures, etc.

THE CONTRACTOR will provide copies of the hazardous materials standards, and appendices, to the attending physician. This is in addition to, for each employee assigned to such duties, a description of the employee's duties as they relate to exposures; the exposure levels, or anticipated exposure levels of the job; a description of any personal protective equipment used, or to be used; and information from the employee's previous medical examinations regarding previous exposures or symptoms.

23.3 RECORDS

The physician will confirm that the employee understands the potential health risks associated with the assignment and will prepare a formal opinion for the record which shall contain;

1) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at an increased health risk of material impairment when working at hazardous waste operations, when working in emergency response situations, or when using a respirator.

2) The physician's recommended limitations, if any, upon the employee's assigned work.

3) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment A full record of the medical tests, treatments and consultations shall be kept for reference by other attending physicians and as a record for continued employment. The medical staff shall also maintain records on hazardous materials exposures, up to radiation exposure levels for the radiography team members, etc. The results of the medical examination and tests, if requested, will be supplied to the employee.

24.0 RADIOACTIVE AWARENESS

In connection with radiation safety, the CONTRACTOR follows safety policy governed by well-known scientific organizations, which in turn are under direct supervision of international committee of radiation protection (ICRP). Ionizing radiation's, such as X-rays generated by different types of equipment and Gamma ray with which are generated by radioactive isotopes e.g.; IR 192 which is widely used for non-destructive testing of various welds. The material tested does not retain any radioactivity when testing is completed. For all practical purposes, the harmful radiations like X-rays and Gamma ray emitted by radioactive sources have properties that should be understood. Even though they have the ability to penetrate the body, they could not be perceived by any of the five senses; they can be absorbed and scattered by matter; they travel in straight lines at the speed of light; they ionize gases; they affect photographic film emulsions and by far the most important they are harmful to living cells. Radiation dosages are cumulative and do not dissipate for a period of time.

Distance, time and shielding are the main methods of reducing radiation exposure.

All exposures shall be kept **A**s **L**ow **A**s **R**easonably **A**chievable (**ALARA**), economic and social factors being taken into account.

24.1 Classified Persons

Any person who work, and is expected to deal with ionizing radiation must be classified.

He must have undergone a semi-annual medical examination and his base line blood must be known.

• Classified persons can receive the maximum permissible dose of 2.5 mR/H (25 micro Sievert/h), but the cumulative dose must not exceed 50 mSV per calendar year.

• Competent persons and radiographers are classified persons. A classified person must wear a film badge, which is renewed every six months and a personal dosimeter at all times when performing industrial radiography operations. At the end of each work shift, he should record the absorbed dose.

• Competent persons are classified personnel who are not normally concerned with ionizing radiations but who are capable of dealing with emergencies and of supervising the use of radioactive equipment. Competent persons are being authorized by AEOI.

• Radiographers and their assistants are personnel who are directly concerned with radiation in their work.

• The whole body dose equivalent should not exceed 5mSv over one year for all unclassified personnel.

24.2 Responsibilities

Radiography supervisor has the full responsibility in all matters concerning the safe use, storage and transportation of Gamma sealed sources and industrial X-ray machines and equipment.

Competent persons will carry out work place audits to ensure compliance with instruction and standards and report the results of these audits to site HSE manager.

Radiographer; At the start of each shift, he will ensure all equipment are in safe working order, any malfunctions will be reported to the competent person immediately.

The radiographer will also make sure that he and his assistant are wearing a valid film badge and a dosimeter, which has been charged and zeroed.

One radiation survey meter will be available for each source in use.

• Equipment will be transported to the work yard with the safety locks in place. Under no circumstances, equipment is to be transported in an assembled condition.

• Upon arrival at the job yard and prior to operating with any sealed source, the radiographer will ensure that non-classified persons will not be subjected to more than the permitted level of radiation of 0.75 mR/H in air (7.5 micro Sievert/h).

• To keep non-classified personnel out of the radiation area, warning signs (in English and Farsi) will be clearly displayed and a colored tape barrier should be erected around the perimeter. Flashing lights should also be used in the hours of darkness.

24.3 Storage of radioactive isotopes

• Storage of isotopes will be so arranged that the radiation level on the outside of the storage place does not exceed 0.75 mR/H in air (7.5 micro Sievert/h)

• Signs or notices will be place in a prominent position with the legend "Warning Keep out", "Radioactive material storage" in English and Farsi and be accompanied by the international trefoil symbol.

• Barriers and notices will be erected at the entrance of the storage place at a distance dictated by the radiation level, which must not be more than 0.75 mR/H in air (7.5 mS/h).

24.4 Use of radioactive isotopes

• Any radiography activity or where the radioactive isotope is to be removed from the source room should be under written permission.

• The source container shall be checked at the following intervals with a radiation monitor to ensure that the source is safely stored:

1) Before removing from source room.

2) After arrival at work yard prior to commencement of radiography.

3) On completion of each exposure.

4) Before returning container to the source room.

• Each person who is required to manipulate the equipment or who is in any way employed in the process involving the use of or transportation of isotope, will receive specific instructions from a competent person.
• A monitoring unit will be immediately available whenever isotopes are use, stored or transported.
• Only trained and authorized persons are to be directly concerned with equipment emitting ionizing radiations.

25.0 LIFTING AND RIGGING OPERATIONS

25.1 Lifting appliances:

All appliances shall be inspected and certified by an approved TPA. The certificate shall be issued in accordance with international approved legislation or as a minimum with the local legislation. The operation of an appliance shall not be permitted if a satisfactory permit has not been issued yet.
Every lifting appliance, and all parts of it, shall be:
• Of good construction
• Of sound material
• Of adequate strength
• Free from patent defect
• Suitable for purpose for which it is used.

25.2 Lifting accessories

The installation, maintenance, repairs and testing of ropes, cables and chains shall be done only by qualified persons. Socketing, splicing, and seizing of rope and cables should be performed by qualified persons and all eye splices shall be made in approved manners.
Rope, Wire, Slings, their fittings and fastenings, when in use should be inspected by qualified person and HSE personnel for evidence of overloading, excessive wear or damage.

• Hooks, shackles, rings, and pad eyes, and other fitting that shows excessive wear or that have been bent, twisted, or otherwise damaged shall be removed from service.

• Suitable protection shall be provided between the sling and sharp unyielding surface of the load to be lifted.

• All slings used for lifting operations must be in good working condition and has color coding system.

•Competent personnel under the supervision of supervisor shall make any handling/lifting.

• Any sling damaged (wire broken) or having sustained deformation or doubtful must be replaced.

• Breaking load/working loads conditions must be known for all the slings.

• Selection of slings must be made in accordance with the weight of the load and angle of the slings.

• Slings must be properly maintained and stored in a special place where they will not be damaged.

• Heavy slings must be certified, properly marked for their capacity length must be controlled and the special color-coding must be used.

• Care must be taken for slinging operations in order to avoid damages to the slings or to prevent from any slippage of the sling when there is no pad eye.

• Double or multiple slings should be used only if the support ends are connected by correctly sized shackles, rings or links of adequate strength.

• When bulky object are being raised or lowered the proper number of slings should be selected to ensure stability and also to support the weight of the load.

• A load should not be raised, supported or lowered on a chain or wire rope, which had a knot in any part of the chain or rope under direct tension.

• Lubricating the wire ropes and chains adequately.

• All cranes shall be fitted with an appropriate load indicator and a load chart. The load indicator shall be serviceable. The load chart shall allow the crane driver to readily ascertain the safe working load (SWL) of the crane at the particular boom length and radius at which it is working.

• A lifting appliance shall not be used for any load exceeding its SWL.

25.3 Riggers

The riggers should be suitable for the following:

- Attach and remove the lifting gears (slings, shackles, tag lines, etc.).
- Attend the tag lines of loads being lifted
- Shall be medically fit with particular regard to strength, agility, eyesight, hearing and reflexes.
- Shall have sufficient experience in lifting.
- Shall be able to select lifting gears suitable for the loads to be lifted.
- Shall be able to understand the language of the signalman.

25.4 Crane drivers:

A crane shall not be driven except by a person especially appointed. The crane drivers shall be:

- Able to carry out the daily checks,
- Able to understand the signals and the language of the signalman,
- Able to make decision whether or not a lifting operation is safe,
- At least, 20 years old,
- Able to show medical fitness certificate from site clinic.

25.5 Signal Man

The signal man should stand in a safe position preferably facing the crane driver, where;

- Able to see the load, lifting operation and riggers,
- Ensure that personnel are not involved with the lifting operation is kept well away.

26.0 HSE MANAGEMENT OF SUBCONTRACTORS

It is the responsibility of the CONTRACTOR management to make the present HSE management plan requirements and all related COMPANY regulations and standards known, understood and implemented by their teamwork and **subcontractors**.

The subcontractors will be evaluated and selected on the basis of their capacity and capability to manage the risks inherent and to respect the entity's contractual requirements regarding health, safety and environment.

The subcontractor representative shall:

• Ensure that any sub-contracted works are performed in accordance with the disposition of the CONTRACTOR HSE program/ manual.

• Provide persons competent and fit to carry out the tasks in an efficient and safe manner.

• Actively participate in prevention, identification, correction and reporting of hazards, incidents and spills as per COMPANY and CONTRACTOR HSE program / manual.

APPENDIX A

HSE Training Matrix

Course Title	Course Code	All Personnel	Managers	Supervisors	Workers	Fore men	Scaffolders	Crane Operators & Riggers	HSE Team	Fire Brigade	Ware-house Crew
Permit To Work	S1		*	*		*			*		
Radiography Awareness	S2								*		
Scaffolding/Working At Height	S3	*									
Incident Reporting	S4		*	*		*			*		
Manual Handling	S5				*	*	*	*	*		*
Basic Fire Fighting	S6	*									
PPE	S7			*	*	*	*	*	*		*
Gas Cylinders	S8			*	*	*			*	*	*
Electrical Safety	S9	*									
Lifting/Rigging/Loading Operations	S10			*		*		*	*		*
Confined Space Entry	S11		*	*	*	*	*		*	*	
Gas Testing	S12			*					*	*	
Hazardous Substances Handling	S13			*	*	*			*	*	*
Pressure Testing Safety	S14		*	*					*		
Advanced Fire Fighting	S15								*	*	
Basic First Aid	S16	*									
Noise	S17	*									
Emergency Response	S18	*									
Defensive Driving Rules	S19	*									
Environmental Awareness	S20	*									
Hygiene	S21	*									
Site Safety Induction	S22	*									

PETRO SAHEL
www.Petro-Sahel.com

Quality Manual

OIL&GAS PROFILE

2015

Quality Manual

1. Scope

1.1 Introduction

Petro Sahel Co. is one of the leading establishments that is working hard towards the prosperity & development of the Islamic Republic of Iran via its specialists, experienced staffs and heavy/semi heavy machinery based on the Country's requirements for building roads, dams, LNG & LPG tanks, transmission lines, and marine facilities (including port, berth & jetty) as well as paving, landscaping, extensive earthworks, construction of large buildings, drainage system, tunnel, gas & oil pipes' right-of-way and fiber optics transmission lines. This Establishment has accomplished unique projects across the Country and has some major projects under construction at present.

Petro Sahel Co. Establishment has executed more than seventy civil & industrial projects for different Clients including Ministry of Oil, Ministry of Road & Transportation, Telecommunication Company, Ministry of Energy,…which some major projects among them were in EPC form.

Manpower

Nearly 2,200 workers & staffs are working directly and full time in the workshops & head office of Rah Sahel. More than 42% of them are educated & skilled labor and about 20% of them have higher education degrees.

Machinery & Equipment

The capabilities & capacities of Petro Sahel Co.'s machinery & equipment are at high level:

- more than 250 heavy/semi heavy machinery,
- crusher with the capacity of 1500 T per day,
- asphalt plant with the capacity of 140 t/hr,
- concrete plant with the capacity of 1000 m3 per day,
- particular gantry cranes,
- pile drivers, digger (Soil-mech.), and
- more than 600 particular civil equipment.

Certifications

Petro Sahel Co. has obtained ISO 9001: 2008 certificate for management & supervision of civil projects and attained the first grade rank in both water and road & transportation fields.

a) needs to demonstrate its ability to consistently provide product that meets customer and applicable statutory and regulatory requirements, and

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

Note 1: In this International Standard, the term "product" applies only to the product intended for, or required by, a customer. This also includes purchased product and product resulting from intermediate stages of the realization process.

Note 2: Statutory and regulatory requirements may be expressed as legal requirements

1.2 Application

All requirements of this International Standard are generic and are intended to be applicable to all organizations, regardless of type, size and product provided.
Where any requirement(s) of this International Standard cannot be applied due to the nature of an organization and its product, this can be considered for exclusion.
Where exclusions are made, claims of conformity to this International Standard are not acceptable unless these exclusions are limited to requirements within clause 7, and such exclusions do not affect the organizations ability, or responsibility, to provide product that meets customer and applicable statutory and regulatory requirements.

2. Normative Reference

- ISO 9001: 2008 Quality Management System

3. Terms and Definitions

The terms and definition of this Quality Manual are in compliance with ISO 9000: 2008.

4 Quality Management Systems

4.1 General requirements

The organization shall establish, document, implement and maintain a quality management system and continually improve its effectiveness in accordance with the requirements of ISO 9001: 2008.

The organization shall:
a) Identify determine the processes needed for the quality management system and their application throughout the organization,
b) determine the sequence and interaction of these processes,

c) determine criteria and methods needed to ensure that both the operation and control of these processes are effective,
d) ensure the availability of resources and information necessary to support the operation and monitoring of these processes,
e) monitor, measure and analyze these processes, and
f) implement actions necessary to achieve planned results and continual improvement of these processes.

These processes shall be managed by the organization in accordance with the requirements of this International Standard. Where an organization chooses to outsource any process that affects product conformity with to requirements, the organization shall ensure control over such processes. The controls to be applied to these outsourced processes shall be defined within the quality management system.

Note1: Processes needed for the quality management system referred to above should include processes for management activities, provision of resources, product realization and measurement.

Note 2: The requirements of Clause 7.4 of this international standard may also apply to outsourced processes.

4.2 Documentation Requirements

4.2.1 General

The quality management system documentation shall include:
c) documented statements of a quality policy and quality objectives,
d) a quality manual,
e) documented procedures and records required by this International Standard, and
f) documents, including records, needed determined by the organization to be necessary to ensure the effective planning, operation and control of its processes, and
g) records required by this International Standard.

Note 1: Where the term "documented procedure" appears within this International Standard, this means that the procedure is established, documented, implemented and maintained. A single document may include the requirements for one or more procedures. A requirement for a documented procedure may be covered by more than one document.

Note 2: The extent of the quality management system documentation can differ from one organization to another due to:
a) the size of organization and type of activities,
b) the complexity of processes and their interactions, and

c) the competence of personnel.

Note 3: The documentation can be in any form or type of medium.

4.2.2 Quality Manual

The organization shall establish and maintain a quality manual that includes
a) the scope of the quality management system, including details of and justification for any exclusions (see 1.2);
b) the documented procedures established for the quality management system, or reference to them; and
c) a description of the interaction between the processes of the quality management system.

4.2.3 Control of Documents

Documents required by the quality management system shall be controlled. Records are a special type of document and shall be controlled according to the requirements given in 4.2.4.
A documented procedure shall be established to define the controls needed
a) to approve documents for adequacy prior to issue,
b) to review and update as necessary and re-approve documents,
c) to ensure that changes and the current revision status of documents are identified,
d) to ensure that relevant versions of applicable documents are available at points of use,
e) to ensure that documents remain legible and readily identifiable,
f) to ensure that documents of external origin necessary for the planning and operation of the quality management system are identified and their distribution controlled, and
g) to prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

4.2.4 Control of Records

Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system shall be controlled. Records shall remain legible, readily identifiable and retrievable. A documented procedure shall be established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.
The organization shall establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of records.

Records shall be remained legible, readily identifiable and retrievable. For this purpose, Petro Sahel Co. uses especial software called Electronic Quality Management System (EQMS).

5 Management Responsibility

5.1 Management commitment

Top management shall provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by:

a) communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements,
b) establishing the quality policy,
c) ensuring that quality objectives are established,
d) conducting management reviews, and
e) ensuring the availability of resources.

5.2 Customer Focus

Top management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction (see 7.2.1 and 8.2.1).

5.3 Quality Policy

Top management shall ensure that the quality policy:

a) is appropriate to the purpose of the organization,
b) includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system,
c) provides a framework for establishing and reviewing quality objectives,
d) is communicated and understood within the organization, and
e) is reviewed for continuing suitability.

The Quality policy of Petro Sahel Co.

Petro Sahel Co. works towards the prosperity & development of the Islamic Republic of Iran via its specialists, experienced staffs and heavy/semi heavy machinery based on the Country's requirements for project execution. Petro Sahel has executed more than seventy civil & industrial projects for different Clients including Ministry of Oil, Ministry of Road & Transportation, Telecommunication Company, Ministry of Energy, … which some major projects among them were in EPC form. Petro Sahel is now seeks to execute the international projects. For this purpose, this Company. attempts to increase the capabilities and capacities as well as its efficiency, effectiveness and productivity. This Company has accomplished unique projects across the Country and

has some major projects under construction. Petro Sahel aims to attend and win in the international tenders. In this regard, Petro Sahel is planning to gain an excellent level of management so as to achieve its goal in the shortest time as much as possible. Therefore, the management of this Est. decided to establish the guidelines of ISO 9001: 2008 for Quality Management System.

- Employing experienced and skillful labor
- Applying well equipped machinery and equipment based on projects' needs
- Acquisition of modern technology for improving the project procedures & plans
- Minimizing the project execution time
- maximizing the efficiency, effectiveness and productivity
- Improvement of project control methods
- Vendors & Suppliers evaluation and proper employing of them
- Customer satisfaction

5.4 Planning

5.4.1 Quality objectives

Top management shall ensure that quality objectives, including those needed to meet requirements for product [see 7.1 (a)], are established at relevant functions and levels within the organization. The quality objectives shall be measurable and consistent with the quality policy.

5.4.2 Quality Management System Planning

Top management shall ensure that:

a) the planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives, and

b) the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

5.5 Responsibility, Authority and Communication

5.5.1 Responsibility and Authority

Top management shall ensure that responsibilities and authorities are defined and communicated within the organization.

5.5.2 Management Representative

Top management shall appoint a member of the organization’s management who, irrespective of other responsibilities, shall have responsibility and authority that includes.

a) ensuring that processes needed for the quality management system are established, implemented and maintained,

b) reporting to top management on the performance of the quality management system and any need for improvement, and

c) ensuring the promotion of awareness of customer requirements throughout the organization.

Note 1: The: responsibility of a management representative can include liaison with external parties on matters relating to the quality management system.

5.5.3 Internal Communication

Top management shall ensure that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system.

5.6 Management Review

5.6.1 General

Top management shall review the organization‘s quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives.
Records from management reviews shall be maintained (see 4.2.4).

5.6.2 Review Input

The input to management review shall include information on
a) results of audits,
b) customer feedback,
c) process performance and product conformity,
d) status of preventive and corrective actions,
e) follow-up actions from previous management reviews,
f) changes that could affect the quality management system, and
g) recommendations for improvement.

5.6.3 Review Output

The output from the management review shall include any decisions and actions related to:
a) improvement of the effectiveness of the quality management system and its processes,
b) improvement of product related to customer requirements, and
c) resource needs.

6 Resource Management

6.1 Provision of resources

The organization shall determine and provide the resources needed
a) to implement and maintain the quality management system and continually improve its effectiveness, and
b) to enhance customer satisfaction by meeting customer requirements.

6.2 Human Resources

6.2.1 General

Personnel performing work affecting product quality conformity to product requirements shall be competent on the basis of appropriate education, training, skills and experience.

6.2.2 Competence, Training and Awareness

The organization shall:
a) determine the necessary competence for personnel performing work affecting product quality conformity to product requirements,
b) where applicable, provide training or take other actions to satisfy these needs achieve the necessary competence,
c) ensure the effectiveness of the actions taken, ensure that the necessary competence has been achieved,
d) ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and
e) maintain appropriate records of education, training, skills and experience (see 4.2.4).

6.3 Infrastructure

The organization shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, as applicable
a) buildings, workspace and associated utilities,
b) process equipment (both hardware and software), and
c) supporting services (such as transport, or communication or information systems).

6.4 Work Environment

The organization shall determine and manage the work environment needed to achieve conformity to product requirements.
Note 1: The term work environment relates to conditions necessary to achieve conformity to product requirements such as clean rooms, anti-static precautions and hygiene controls.

7. Product Realization

7.1 Planning of product realization

The organization shall plan and develop the processes needed for product realization. Planning of product realization shall be consistent with the requirements of the other processes of the quality management system (see 4.1). In planning product realization, the organization shall determine the following, as appropriate:
a) quality objectives and requirements for the product;
b) the need to establish processes, documents, and provide resources specific to the product;
c) required verification, validation, monitoring, measurement, inspection and test activities specific to the product and the criteria for product acceptance;
d) records needed to provide evidence that the realization processes and resulting product meet requirements (see 4.2.4).
The output of this planning shall be in a form suitable for the organization‘s method of operations.

Note 1: A document specifying the processes of the quality management system (including the product realization
processes) and the resources to be applied to a specific product, project or contract, can be referred to as a quality plan.
Note 2: The organization may also apply the requirements given in 7.3 to the development of product realization processes.

7.2 Customer-related processes

7.2.1 Determination of requirements related to the product

The organization shall determine:
a) requirements specified by the customer, including the requirements for delivery, and for post-delivery activities,
b) requirements not stated by the customer but necessary for specified or intended use, where known,
c) statutory and regulatory requirements related applicable to the product, and
d) any additional requirements as needed determined by the organization.

Note1: Post delivery activities may include actions under warranty provisions, contractual obligations such as maintenance services, and supplementary services such as recycling or final disposal.

7.2.2 Review of requirements related to the product

The organization shall review the requirements related to the product. This review shall be conducted prior to
the organization‘s commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and shall ensure that:

a) product requirements are defined,
b) contract or order requirements differing from those previously expressed are resolved, and
c) the organization has the ability to meet the defined requirements.

Records of the results of the review and actions arising from the review shall be maintained (see 4.2.4). Where the customer provides no documented statement of requirement, the customer requirements shall be confirmed by the organization before acceptance.
Where product requirements are changed, the organization shall ensure that relevant documents are amended and that relevant personnel are made aware of the changed requirements.

Note1: In some situations, such as internet sales, a formal review is impractical for each order. Instead the review can cover relevant product information such as catalogues or advertising material.

7.2.3 Customer communication

The organization shall determine and implement effective arrangements for communicating with customers in relation to
a) product information,
b) enquiries, contracts or order handling, including amendments, and
c) customer feedback, including customer complaints.

7.3 Design and development

Since design and development is not in the work scope of Petro Sahel, this clause is not applicable.

7.4 Purchasing

7.4.1 Purchasing process

The organization shall ensure that purchased product conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product shall be dependent upon the effect of the purchased product on subsequent product realization or the final product.
The organization shall evaluate and select suppliers based on their ability to supply product in accordance with the organization's requirements. Criteria for selection, evaluation and re-evaluation shall be established. Records of the results of evaluations and any necessary actions arising from the evaluation shall be maintained. (see 4.2.4)

7.4.2 Purchasing information

Purchasing information shall describe the product to be purchased, including where appropriate:
a) requirements for approval of product, procedures, processes and equipment,
b) requirements for qualification of personnel, and
c) quality management system requirements.
The organization shall ensure the adequacy of specified purchase requirements prior to their communication to the supplier.

7.4.3 Verification of purchased product

The organization shall establish and implement the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements.
Where the organization or its customer intends to perform verification at the supplier‘s premises, the organization shall state the intended verification arrangements and method of product release in the purchasing information.

7.5 Production and service provision

7.5.1 Control of production and service provision

The organization shall plan and carry out production and service provision under controlled conditions. Controlled conditions shall include, as applicable:
a) the availability of information that describes the characteristics of the product,
b) the availability of work instructions, as necessary,
c) the use of suitable equipment,
d) the availability and use of monitoring and measuring devices,
e) the implementation of monitoring and measurement, and
f) the implementation of release, delivery and post-delivery activities.

7.5.2 Validation of processes for production and service provision

The organization shall validate any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement. This includes any processes where deficiencies become apparent only after the product is in use or the service has been delivered.
Validation shall demonstrate the ability of these processes to achieve planned results.
The organization shall establish arrangements for these processes including, as applicable:
a) defined criteria for review and approval of the processes,
b) approval of equipment and qualification of personnel,
c) use of specific methods and procedures,
d) requirements for records (see 4.2.4) and
e) revalidation.

Note 1: For many service organizations, the service provided does not readily allow the verification before the delivery of the service. These types of processes should be considered and identified during the planning stage (see 7.1)

Note 2. Processes such as welding, sterilization, training, heat treatment, call center service, or emergency response may need validation.

7.5.3 Identification and traceability

Where appropriate, the organization shall identify the product by suitable means throughout product realization.

The organization shall identify the product status with respect to monitoring and measurement requirements throughout product realization.
Where traceability is a requirement, the organization shall control and record the unique identification of the product and maintain records (see 4.2.4)
NOTE In some industry sectors, configuration management is a means by which identification and traceability are maintained.

7.5.4 Customer property

The organization shall exercise care with customer property while it is under the organization‘s control or being used by the organization. The organization shall identify, verify, protect and safeguard customer
property provided for use or incorporation into the product. If any customer property is lost, damaged or otherwise found to be unsuitable for use, this shall be reported to the customer and records maintained the organization shall report this to the customer and maintain records (see 4.2.4).

Note 1: Customer property can include intellectual property and personal data.

7.5.5 Preservation of product

The organization shall preserve the conformity of product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. Where appropriate, This As applicable, preservation shall include identification, handling, packaging, storage and protection. Preservation shall also apply to the constituent parts of a product.

7.6 Control of monitoring and measuring devices

Since Petro Sahel Co. has not any system for Control of monitoring and measuring devices in the Quality Management System, this clause is not applicable.

8 Measurement, analysis and improvement

8.1 General

The organization shall plan and implement the monitoring, measurement, analysis and improvement processes needed:
a) to demonstrate conformity of the product,
b) to ensure conformity of the quality management system, and
c) to continually improve the effectiveness of the quality management system.

This shall include determination of applicable methods, including statistical techniques, and the extent of their use.

8.2 Monitoring and measurement

8.2.1 Customer satisfaction

As one of the measurements indicators of the performance of the quality management system, the organization shall monitor information relating to customer perception as to whether the organization has met customer requirements. The methods for obtaining and using this information shall be determined.

8.2.2 Internal audit

The organization shall conduct internal audits at planned intervals to determine whether the quality management system:
a) conforms to the planned arrangements (see 7.1), to the requirements of this International Standard and to the quality management system requirements established by the organization, and b) is effectively implemented and maintained.
A documented procedure shall be established to define the responsibilities and requirements for planning and conducting audits, establishing records and reporting results.
An audit programmed shall be planned, taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods shall be defined. Selection of auditors and conduct of audits shall ensure objectivity and impartiality of the audit process. Auditors shall not audit their own work.
The responsibilities and requirements for planning and conducting audits, and for reporting results and maintaining records (see 4.2.4) shall be defined in a documented procedure.
Records of the audit and its results shall be maintained (see 4.2.4).
The management responsible for the area being audited shall ensure that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities shall include the verification of the actions taken and the reporting of verification results (see 8.5.2).

8.2.3 Monitoring and measurement of processes

The organization shall apply suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods shall demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action shall be taken, as appropriate, to ensure conformity of the product.

Note1: When determining suitable methods, the organization should consider the type and extent of monitoring or measurement appropriate to each of its processes in relation to their impact on the conformity to product requirements and on the effectiveness of the quality management system.

8.2.4 Monitoring and measurement of product

The organization shall monitor and measure the characteristics of the product to verify that product requirements have been met. This shall be carried out at appropriate stages of the product realization process in accordance with the planned arrangements (see 7.1). Evidence of conformity with the acceptance criteria shall be maintained.
Evidence of conformity with the acceptance criteria shall be maintained. Records shall indicate the person(s) authorizing release of product for delivery to the customer (see 4.2.4).
The release of product release and service delivery to the customer shall not proceed until the planned arrangements (see 7.1) have been satisfactorily completed, unless otherwise approved by a relevant authority and, where applicable, by the customer.

Note1: Evidence of conformity with acceptance criteria can be a record or as otherwise specified in the planned arrangements.

8.3 Control of nonconforming product

The organization shall ensure that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. A documented procedure shall be established to define the controls and related responsibilities and authorities for dealing with nonconforming product. It shall be defined in a documented procedure. Where practicable, the organization shall deal with nonconforming product by one or more of the following ways:

a) by taking action to eliminate the detected nonconformity;
b) by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
c) by taking action to preclude its original intended use or application.

d) when nonconforming product is detected after delivery or use has started, by taking action appropriate to the effects, or potential effects, of the nonconformity

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, shall be maintained (see 4.2.4).

When nonconforming product is corrected it shall be subject to re-verification to demonstrate conformity to the requirements. Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, shall be maintained (see 4.2.4).

When nonconforming product is detected after delivery or use has started, the organization shall take action appropriate to the effects, or potential effects, of the nonconformity.

8.4 Analysis of data

The organization shall determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made. This shall include data generated as a result of monitoring and measurement and from other relevant sources. The analysis of data shall provide information relating to:

a) customer satisfaction (see 8.2.1),

b) conformity to product requirements (see 7.2.1),

c) characteristics and trends of processes and products including opportunities for preventive action, and d) suppliers.

8.5 Improvement

8.5.1 Continual improvement

The organization shall continually improve the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

8.5.2 Corrective action

The organization shall take action to eliminate the causes of nonconformities in order to prevent recurrence. Corrective actions shall be appropriate to the effects of the nonconformities encountered. A documented procedure shall be established to define requirements for:

a) reviewing nonconformities (including customer complaints),

b) determining the causes of nonconformities,

c) evaluating the need for action to ensure that nonconformities do not recur,

d) determining and implementing action needed,

e) records of the results of action taken (see 4.2.4), and
f) reviewing the effectiveness of the corrective action taken.

8.5.3 Preventive action

The organization shall determine action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions shall be appropriate to the effects of the potential problems.

A documented procedure shall be established to define requirements for:
a) determining potential nonconformities and their causes,
b) evaluating the need for action to prevent occurrence of nonconformities,

Appendixes:

Appendix 1: Process Index

Appendix 2: Process Relationship Matrix

Appendix 3: Relationship Matrix

Appendix 4: Overall Process Map

Appendix 5: List of QMS Documents

Appendix 6: ISO Certificate

Appendix 1: Process Index

Abbreviation	
SP	*System Management & Project Control*
TS	*Tender Searching*
PO	*Projects Organize*
IP	*Implementation Guidance & Provisional Acceptance*
FA	*Final Acceptance & Settle*
PR	*Procurement*
MT	*Manpower Provide & Training*

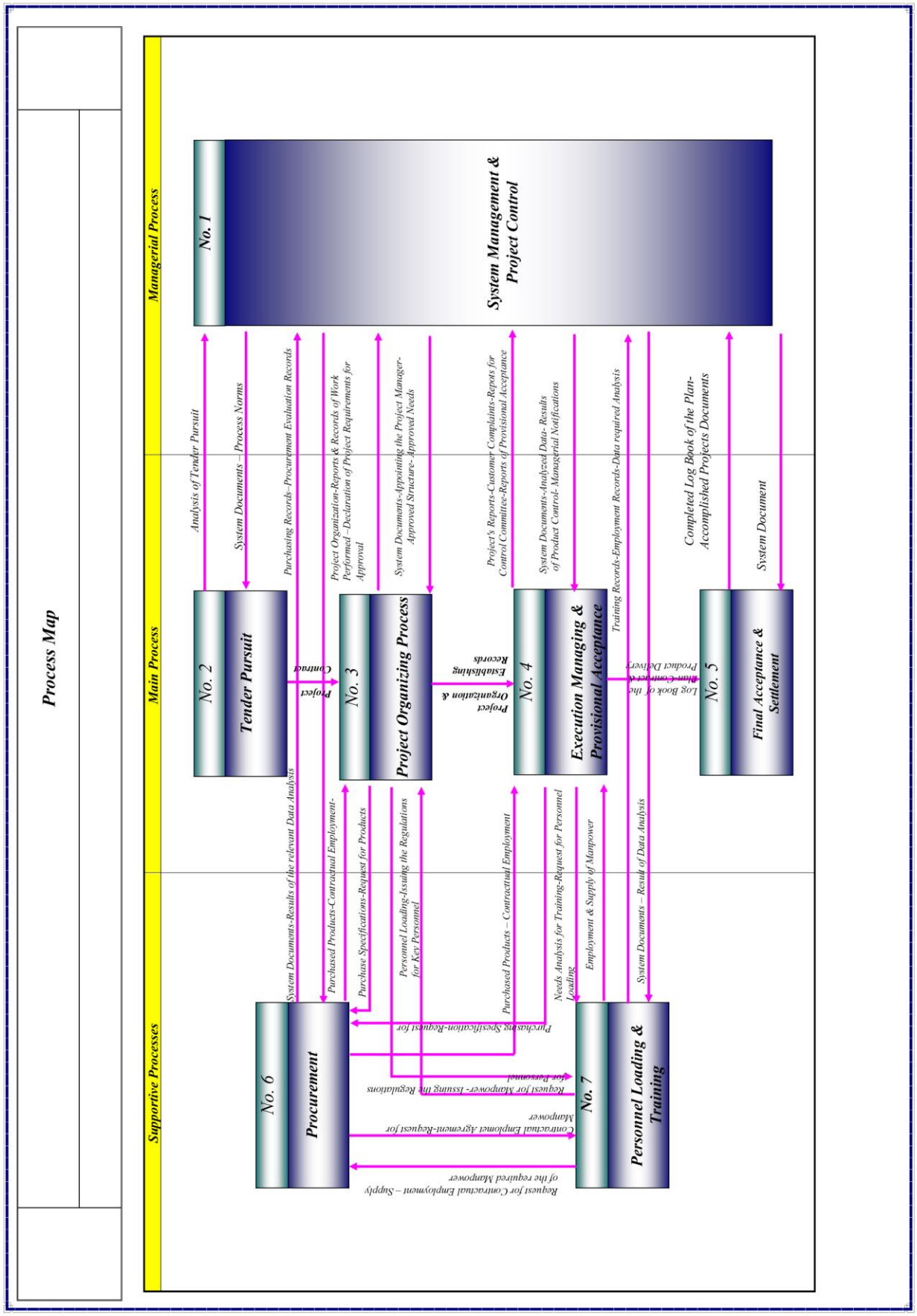
Appendix 2: Process Relationship Matrix

Description	Code	System Management & Project Control	Tender Searching	Projects Organize	Implementation Guidance & Provisional Acceptance	Final Acceptance & Settle	Procurement	Manpower Provide & Training
		SP	TS	PO	IP	FA	PR	MT
System Management & Project Control	SP	-	R	R	R	R	R	R
Tender Searching	TS	R	-	R	NR	NR	NR	NR
Projects Organize	PO	R	R	-	R	NR	R	R
Implementation Guidance & Provisional Acceptance	IP	R	NR	R	-	R	R	R
Final Acceptance & Settlement	FA	R	NR	NR	R	-	NR	NR
Procurement	PR	R	NR	R	R	NR	-	R
Manpower Provide & Training	MT	R	NR	R	R	NR	R	-
Direct Relation: R								
Indirect Relation: NR								

Appendix 3: Relationship Matrix

Secretariat	Financial Manager	Administrative Manager	Administrative & Financial Deputy	Purchase Manager	Logistics Deputy	Training	Technical Support & Machinery Deputy	Maintenance Manager	Research, Developing and Technology	IT Supervisor	Document Center	Accomplished Projects Organizing Manager	Contractual Affair Management	Planning and Project Control Management		Contract and Follow up Manager	Technical & Executive Deputy	Project Manager	Management Representative	Managing Director	Code/ Abbreviation	Process/Procedure Title	Item
														QA	Planning and Project Control Manager								
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	SP	Management System & Project Control Process	
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-09/SP-00	Document Control Procedure	1
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-10/SP-00	Records Control Procedure	2
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-11/SP-00	Internal Auditing Procedure	3
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-12/SP-00	Nonconformance Product Control Procedure	4
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-13/SP-00	Corrective Action Procedure	5
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-14/SP-00	Preventive Action Procedure	6
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-06/SP-00	Data Analysis Procedure	7
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	PR-15/SP-00	Control Committee Procedure	8
N	N	N	N	N	N	N	N	N	N	N	N	N	N	R	R	N	R	N	R	O	PR-16/SP-00	Management Review Procedure	9
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	O	R	PR-17/SP-00	Internal Document Control Procedure	10
N	N	N	N	N	N	N	N	N	N	N	N	N	N	R	R	N	R	N	R	O	PR-18/SP-00	Quality Planning Procedure	11
N	N	N	R	N	R	N	R	N	N	N	N	N	N	R	R	N	R	R	R	O	TS	Tender Searching Process	
N	N	N	R	N	R	N	R	N	N	N	N	N	N	R	R	N	R	R	R	O	PR-01/TS-00	Tender Searching Procedure	12
N	R	R	R	R	R	R	R	N	N	N	N	N	N	R	R	N	R	O	R	R	PO	Projects Organize Process	
N	R	R	R	R	R	R	R	N	N	N	N	N	N	R	R	N	R	O	R	R	PR-02/PO-00	Projects Organize Procedure	13
N	N	N	N	N	N	N	N	N	N	N	N	R	N	R	R	R	R	O	R	R	IP	Implementation Guidance & Provisional Acceptance Process	
N	N	N	N	N	N	N	N	N	N	N	N	R	N	R	R	R	R	O	R	R	PR-03/IP-00	Implementation Guidance & Provisional Acceptance Procedure	14
N	R	N	R	N	N	N	N	N	N	N	N	R	N	R	R	R	O	R	R	R	FA	Final Acceptance & Settlement Process	
N	R	N	R	N	N	N	N	N	N	N	N	R	N	R	R	R	O	R	R	R	PR-04/FA-00	Final Acceptance & Settlement Procedure	15
N	R	R	R	R	O	N	R	R	N	N	N	N	R	R	R	N	R	R	R	R	PR	Procurement Process	
N	R	R	R	R	O	N	R	R	N	N	N	N	R	R	R	N	R	R	R	R	PR-05/PR-00	Procurement Procedure	16
N	N	R	O	N	R	R	R	N	N	N	N	N	N	R	R	N	R	R	R	R	MT	Manpower Provide & Training Process	
N	N	R	R	N	R	O	R	N	N	N	N	N	N	R	R	N	R	R	R	R	PR-07/MT-00	Training Procedure	17
N	N	O	R	N	R	R	R	N	N	N	N	N	N	R	R	N	R	R	R	R	PR-08/MT-00	Recruitment Procedure	18

- Not applicable: N | **Responsible Authority: R** | **Owner: O**


Process Map
Managerial Process
Main Process
Supportive Processes
No. 1
System Management & Project Control
No. 2
Tender Pursuit
No. 3
Project Organizing Process
No. 4
Execution Managing & Provisional Acceptance
No. 5
Final Acceptance & Settlement
No. 6
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Personnel Loading & Training
Analysis of Tender Pursuit
System Documents – Process Norms
Purchasing Records–Procurement Evaluation Records
Project Organization-Reports & Records of Work Performed –Declaration of Project Requirements for Approval
System Documents-Appointing the Project Manager-Approved Structure- Approved Needs
Project's Reports-Customer Complaints-Repots for Control Committee-Reports of Provisional Acceptance
System Documents-Analyzed Data- Results of Product Control- Managerial Notifications
Training Records-Employment Records-Data required Analysis
Completed Log Book of the Plan-Accomplished Projects Documents
System Document
Project Contract
Project Organization & Establishing Records
Log Book of the Plan-Contract-Product Delivery
System Documents-Results of the relevant Data Analysis
Purchased Products-Contractual Employment-
Purchase Specifications-Request for Products
Personnel Loading-Issuing the Regulations for Key Personnel
Purchased Products – Contractual Employment
Needs Analysis for Training-Request for Personnel Loading
Employment & Supply of Manpower
System Documents – Result of Data Analysis
Purchasing Specification-Request for
Request for Manpower- Issuing the Regulations for Personnel
Contractual Emploimet Agreement-Request for Manpower
Request for Contractual Employment – Supply of the required Manpower

List of QMS Documents

No.	Title	No.	Title
	Project Control & System Management Process		**Projects Organizing Process**
1	Document Control Procedure	22	Projects Organizing
2	Records Control Procedure	23	Project Manager Appionting Procedure
3	Internal Audit Procedure	24	Site's Personnel Positions Determining Procedure
4	Non conformance Products Control Procedure		**Execution Managing and Provisional Acceptance Process**
5	Corective Action Procedure	25	Projects Handling Procedure
6	Preventive Action Procedure	26	Mobilization Procedure
7	Data Analysis Procedure	27	Provisional Acceptance Procedure
8	Control Committee Procedure	28	Provisional Invoicing Procedure
9	Coding Procedure	29	Final Invoicing Procedure
10	Customer Satisfaction Measurement Procedure		**Final Acceptance & Settlement Process**
11	Projects' Scheduling and Updating Procedure	30	Final Acceptance & Settlement Procedure
12	Projects' Reporting Procedure		**Procurement Process**
13	Control Committee Bylaw	31	Purchasing Procedure
14	Documentation Procedure	32	Bidding Internal Bylaw of Khatamol Anbia
15	Backup Making Procedure	33	Subcontractor Evaluation
16	Management Revision Procedure	34	Purchased Products Verification Procedure
17	Quality Objectives Establishing Procedure	35	Training Procedure
	Tender Pursuit Process	36	Needs Analysis for Training Procedure
18	Tender Pursuit	37	Personnel Loading & Recruitment Procedure
19	Contractual Affairs Committee Bylaw	38	Job Description
20	Contract Concluding Procedure	39	Quality Manual
21	Guarantee Request & Issuance Procedure		

PETRO SAHEL
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Security Control Plan

OIL&GAS PROFILE

2015

FIELD SECURITY CONTROL PLAN

Table of Contents

1 GENERAL

1.1 Scope

The Protection of property from fire, theft and the prevention of unauthorized entry to the premises are the main goals of Site Security. Coordination with the Owner and the local police and or fire authorities is a necessity. This procedure gives the basic security requirements and procedures for the project.

The implementation of this plan may be gradual because during the initial stages of the construction, the Site security needs are reduced.

1.2 Overall Site Security

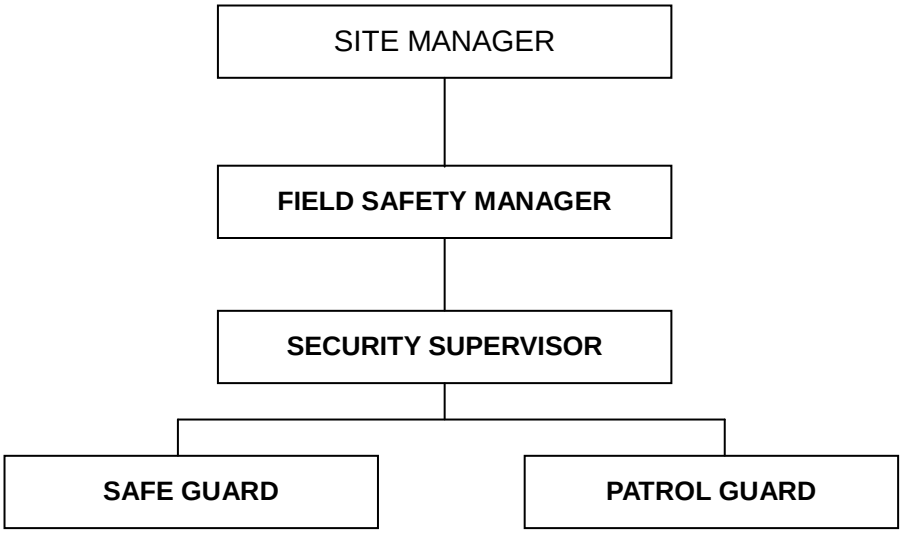
Contractor will provide an adequate, continuous 24 hours guard force for the plant perimeter, access points, camp area and vital internal areas. In addition to placing guards in strategic positions, a complete lock system for the offices and warehouses, and floodlights will be provided. Safeguard fencing will be provided around the Construction Site along with temporary fencing of all Subcontractor's assigned areas..

A good communication system shall be established for all security personnel by way of walkie-talkies, sirens, etc. as it requires.

When laying out buildings and storage areas during the initial stage of the construction, the need to discourage theft and prevent unauthorized entry and the spread of fire should be kept in mind.

2 SECURITY ORGANIZATION

The security guard system is functionally organized as follows:



The Security Organization shall be established as applicable and practicable according to the Site Conditions. The number of workers involved in the work and the scope of activities will determine the Security requirements.

When establishing a Security Organization, especially when employing guards from local resources, the following shall be included in the plan:

- Number of Shifts
- Number of guards per Shift
- Time of Shift change
- Area and frequency of Patrol
- Processing Gate control

3 RULES AND DUTIES

3.1 Duties of Safety Manager and Security Supervisor

The Safety Manager/Security Supervisor will perform the duties enumerated

below :

(1) Establish a Security Organization and the Security Rules and Procedures.

(2) Supervise and direct the Security Guards, and ensure they report daily routine jobs as well as any abnormal security matters, which arise and observe.

(3) Give training to the Guards in security matters, i.e. gate control, actions to be taken in an emergency, traffic rules, and correspondence to violators of rules and requirements.

(4) Issue and ensure any special or specific orders or instructions for security, in writing, to the Safety Supervisors and Security Guards.

(5) Conduct a daily patrol himself at least twice a day to check the activities of the Security Guards.

(6) Process and monitor material passes when Subcontractor brings in or takes out any material, equipment and/or tools to/from the Site.

(7) Coordinate security matters with the Administration Manager.

(8) Issue Identification (ID) cards to all employees of Contractor and Subcontractors.

(9) Check the Daily Security Report submitted by the Security Guards.

(10) Report to the resident Site Manager on topics and status of security.

(11) When he finds any violations of the Security and Traffic Rules and Requirements, he shall issue an instruction for corrective action to the individuals concerned and their employer.

Duties of Guards

Gate Guards and Patrol Guards shall mainly perform the duties described below :
(1) Guards shall:

- Be stationed at the main gate house and other guard posts.
- Check the coming and going of persons and vehicles through the gates.
- Inform the Site Office or Subcontractor's Office when a visitor arrives, and issue a visitor badge or vehicle pass if appropriate.
  Check Material Passes and confirm materials, equipment and tools moving in/out of the Site.
- Keep a record of visitors, vehicles and materials movements.
- Collect and compile information and reports from the previous guards, and submit it to the Field Safety Supervisor in accordance with planned Daily program.
- Report any security incident promptly to the Field Safety Supervisor. The written report will, without delay, be submitted, including the interrogation proceedings.
  (Attachment No.1: Incident Report)
- Conduct a routine patrol at approximately 3 hour intervals following the route ordered by the Field Safety Supervisor.
- Observe record, report and control any violations of the Traffic Rules including instruction of Site Rules and Regulations.
- Conduct a special patrol whenever instructed to by the Field Safety Supervisor.

3.3 Manners of Guards

All the Guards who work in the Site shall be competent to perform their duties. They are required to maintain the following discipline when on duty:

(1) Patrol strictly along the routes ordered and at the designated times and frequencies scheduled unless otherwise needed for specific reasons.

(2) Guards shall be firm, calm and courteous in enforcing the security rules, for example, when questioning any person.

3.4 Clothing and Equipment

Guards shall wear the specified clothing in a neat and tidy fashion while on duty, even when stepping out for a moment during recess time.

When conducting patrol rounds or attending to duties at the guard posts, guards shall wear or carry the following necessary items:

- Helmet/Safety shoes
- Flash light (on night shift)
- Pen or pencil and pocket-book
- Communication equipment (walkie-talkie, Whistle, etc.)

4 OPERATIONS

4.1 Work Shifts

The Security Guards shall be on duty 24 hours per day in two shifts.

4.2 Patrol Guard

Guards shall conduct patrol rounds following the routes specified by the Field Security Supervisor.

Before starting their patrol rounds, all guards shall check their own outfit, and exchange information and give advice or messages, if any from the guards on previous duty, and check the notice board for any specific instructions or orders.

Guards shall strictly follow the designated routes of patrol unless the Field Security Supervisor due to special reasons or emergency specific situations changes them.

In an emergency, Guards will immediately report to or to the Field Security Supervisor or others using the Emergency Communications Channel by the quickest means.

4.3 Gate Guard

Before going to their post, they shall check themselves, their equipment, and for any extra instructions to follow matters to confirm or pay attention to, etc. In the same manner as the Patrol Guard in clause 4.2

Whenever a Patrol Guard calls at a guard post, the guards shall exchange calls, information or advice if any, and shall record the name of the Patrol Guard and the time he called.

4.4 Points to be checked during Patrols and Watch

Guards shall, but not limited to, check the following points during their patrols or watch :

(1) Border lines, especially portions susceptible to intrusion from outside.

(2) Intruders hiding inside or behind buildings, structures, etc.

(3) Whether doors and windows are locked or broken.

(4) Materials or places that may cause fires.

(5) Leaks of water, gases, oils or fuels.

(6) Traces of smoking in prohibited areas.

(7) Security and Construction lights.

(8) Acts violating the rules.

4.5 Emergencies

(1) Fires

A Guard who discovers a fire shall first try to put it out with an extinguisher, if available nearby, or by other means, then call to his fellow guards or other persons to help, and quickly report the fire to the Contractor's Office.

(2) Thefts

A Guard who discovers thieves shall try to either arrest them or drive them away; however, he shall take care that thieves may be armed.
The guard shall promptly report the incident to the Security Office asking for help and instructions with walky-talky.

The Field Safety Supervisor shall take immediate action to effectively handle the situation.

If the situation appears beyond immediate control, he will consult with the resident Site Manager in order to obtain assistance from the Owner's Security and/or the local police.

(3) Incident

Accidents/incidents shall be reported to the Safety Department personnel or construction Supervisor as soon as possible. If an incident involves the injury is serious, security shall inform the First Aid Station and or Site's Clinc and then Safety department. Any unauthorized entry to the scene shall be prevented.

4.6 Means of communication

(1) Emergency Communication

In an emergency, Guards shall blow a whistle to call the other Guards to the scene, and inform the Security Office of the situation with a walky-

talky. Guards who have heard a whistle blown shall blow their own whistles and rush, if appropriate, to the scene. Every Guard shall act under the control of the Field Security Supervisor in such a case.

(2) Notice-Board

When Guards collect at the Security Office before going on duty, the Field Security Supervisor shall give oral or written instructions to them on specific points. Important matters shall be posted on the notice board.

(3) Guard's Pocket Book

Every Guard shall carry with him a pocket book, in which he should write down anything requiring attention or reporting.

Such notes should cover the following:

- Time
- Date
- Place
- Identification number
  (Vehicle number, ID card or badge number)
- Facts observed
- Sketches, if possible
- Other remarks

After rounds, he reports/writes this information in the diary kept in the Security Office and photocopies his Pocket Book for the Security files.

4.7 Gate Control

(1) Sign Boards

A large sign shall be present at the Site entrance displaying entry and re-entry rules, the prohibition of firearms, drugs, etc., and the guard's

right to check personal belongings, etc.

(2) Gate Pass for Personnel

a) All the personnel including Company, Contractor, and subcontractors entering the Site or other designated area shall have proper identification issued by Contractor's Safety Department. Guards shall check to see that Identification Cards or badges is worn in the manner specified in this procedure. Guard shall refuse entry of employee not wearing an Identification Card or any other unauthorized person. Guard shall immediately confiscate an Identification card being misused or used in a counterfeit manner. In addition, contractor shall furnish all employees under his jurisdiction with numbered badges bearing company name. Subcontractors must use their own badges and not similar to the Contractor

Contractor and Subcontractor are required to maintain a current roster of their employees and their badge numbers.

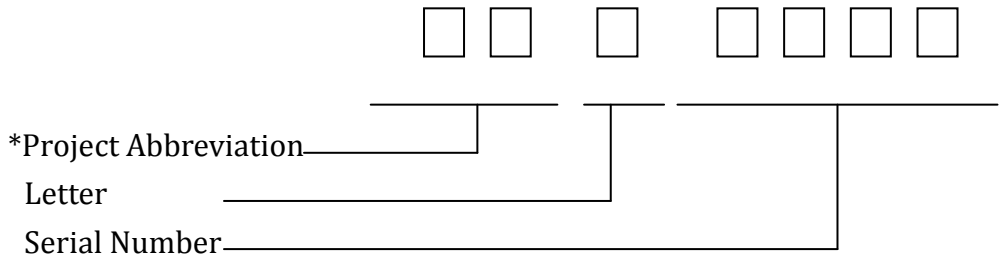
Subcontractor shall be required to apply for the personnel passes as per Man Number Allocation procedure mentioned below (Attachment No.7) The procedure is self-explanatory and all the required data shall be filled in name, age, address and attached photos or necessary copies of Identification Card (SHENAS-NAMEH), passport, work permit, and etc. Applications filled out by subcontractor with authorization by his representatives shall be submitted to Contractor's Safety Department for scrutiny, authorization and issuance of the gate pass. Those shall be returned to the Contractor's Safety Department as soon as the validity expires or the passes no longer required for the entry into the site. Contractor shall be liable to any fines or disciplinary action taken by the Contractor's Safety Department for non-return of passes. After obtaining the passes, the persons shall enter the plant site after going through a Safety Orientation regarding the safety rules to be followed by the personnel while he is inside the plant. Any violation of plant safety rules by subcontractor personnel and

Contractor will count his violations and take subsequent disciplinary action against violations.

At each Contractor's gate, Contractor's Security Guard will maintain a daily log listing the name, company or organization represented, visited party, time of entry and departure of all visitors to the job-site. The Security Guard will also maintain a daily log listing the name, badge number, name and time of entry or departure of all employees entering or leaving other than normal starting or quitting

b) Man Number Allocation and ID Application Procedure

1-1 All man number is alphanumeric configuration of a prefixed letter and four suffixed numerals. The numbers shall be preceded by abbreviation for the project.



Contractor will specify project Abbreviation

1-2 Numbering :

Man numbering for the Contractor and Subcontractor Vendor personnel shall be allocated as follows:

	Serial No
1. For Contractor	XX-A0001-A0999
2. For Subcontractor	
Subcontractor No. 1	XX-B0001-B9999
Subcontractor No. 2	XX-C0001-C9999
Subcontractor No.3	XX-D0001-D9999
And soon up-to U9999	
3. For Vendors :	

Vendor No. 1	XX-V0001-V0099
Vendor No. 2	XX-V0101-V0199
And so on up to V9999	

1-3 ID/Pass Application :

Subcontractor shall assign a unique man-number using ID/Pass Request Form (Attachment No.7). The Copy of employee's identification or passport and passport size photos shall be also attached. The ID/Pass Application requirements shall be confirmed from Safety Department before application.

1-4 Report of Employee :

Subcontractor shall report the number of his total employees categorized in each job classification (profession) with their nationalities using form No. 8 attached monthly basis.

(3) Visitors

A temporary visitor shall register with Visitor Card showing his name, reason for entry, and the address and name of the person and company, which he wishes to contact. The Gate Guard will inform the person whom the visitor wishes to contact, either by telephone or other means, and after receiving an acceptance from the interviewee, the Guard will issue them a Visitor Card and Temporary Badge. The Card and Badge shall be returned when the visitor leaves the site. The interviewee shall sign the visitor card.

Guards shall not permit the entrance of the persons mentioned below:

- Unauthorized visitors to a worker during working hours.
- Peddlers
- Visitors carrying a camera
- Intoxicated individuals
- Suspicious individuals

- Others as specified

(3) Gate Pass for Materials

Delivery to the job-site shall be restricted to scheduled working hours unless otherwise approved by contractor. All exceptions require the advance approval of contractor.
The Procedure is explained as below (Attachment No.1)

a) Control over movement of material

In order to properly control all material leaving plant, the following procedure shall be adopted

1-1 No material, except personal property, will be allowed to leave the job-site unless it is accompanied by a duly completed and approved "Material Gate Pass"(MGP).

1-2 The MGP shall be pre-numbered document and in a printed form.

1-3 The bearer shall ensure that all pertinent details are completed on the MGP and that it is approved and signed by an authorized person.

1-4 The authority to sign an MGP and the limits of authority are restricted to personnel and maintain the "Material Gate Pass Authorization List". Updating of this list is the responsibility of the concerned Department Manager with endorsement of Site Manager. The original list shall be kept in the Administration Manager and copy of the list kept in each gate.

1-5 All out-going material arrived at the security gate shall be in a condition that will allow the security Guard to inspect / verify the material against the item listed on the listed on the MGP.

1-6 The Security Guards clearing the material as listed on the MGP and sign the MGP at the "Checked by" section.

1-7 The security Guard will maintain a Register for all outgoing material as per following format :

Date	Time	Material Gate Pass	Issuing Dep't	Brief Description	Signature

1-8 Distribution of copies :

1-8-1 The originator shall complete the MGP and gain an authorized approval signature and keep the white copy, the blue copy shall be mailed to safety office; the bearer shall take the pink and yellow copies with the material to the security gate.

1-8-2 The security guard after checking the materials, signing the MGP and recording the information in the register shall forward the pink one to the security office. The bearer shall rout the yellow copy to the originator through the concerned department manager.

1-8-3 The security office shall check the pink against the blue copy; if the check is satisfactory, the blue copy shall be filed, the pink copy forwarded to the Material Manager. If the check is not satisfactory, If the check is not satisfactory, then security shall follow the matter directly with the issuer.

1-8-4 The Material section shall maintain all pink copies on file for auditing.

1-8-5 The originator shall make a final check of the white

original against the yellow copy.

1-8-6 A simplified routing diagram is shown on the reverse of the MGP as attached (attachment No. 2).

b) For materials including equipment and tools belonging to Subcontractor:

Contractor's Field Safety Manager shall approve a material pass in the form. The person who is taking out materials shall show the pass to the Gate Guard, and the Guard shall check the materials being taken out against the pass before letting them through the Gate.

c) For materials, equipment and tools belonging to the Subcontractor(s): Using the same form as above, the subcontractor's manager (or his absence, his substitute) shall contact Contractor's Safety Manager when they take out their property.

d) Contractor's Safety Manager and any other designated persons, the Subcontractors' manager (and their substitutes) shall register their signatures with the Security Office so as to confirm them.

e) The Subcontractor(s) agrees that, regardless of the provisions of clause (b) and (c) above, Contractor will have no responsibility for the unauthorized removal of the subcontractor's belongings from the Site by his own personnel as this is beyond the control of Contractor.

(5) Personal Effects

The Gate Guard has, when necessary, the right to check the contents of workers or visitors bags or envelops. In such a case the Guard must have the bag or the envelope opened by the bearer. Two guards shall be present during the opening, inspection, and return to the bearer. If a

body-check is deemed necessary, the Security Supervisor called as a witness.

(6) Vehicles

All vehicles shall stop at the gate. For a vehicle registered and used on the Site, Contractor shall apply the form of Attachment (No.3) for Gate Pass of vehicles. Subcontractor's Gate Pass application with necessary attachments shall be submitted to contractor for verification and authorization. The Gate Pass for vehicles and these vehicles are to be maintained in acceptable working condition. The Safety Manager will issue a vehicle pass and Badge and Gate pass shall be placed in a prominent location on the vehicle. The drivers of the vehicles shall obtain separate personnel Gate Passes. The same rules in the case of personnel Gate Passes shall be applied for the Vehicle Gate Passes as well. For a visitor's vehicle or one temporarily carrying materials, the Gate Guard will issue a temporary Vehicle Pass and Badge after receiving the authorization of the Site recipient. When vehicles leave the site, the Gate Guard shall receive the Vehicle/Visitor Passes and Vehicle Badge and, at the same time, check inside and outside the vehicle.

(8) Others

a) Contractor and Subcontractor's normal workweek shall be in compliance with contractor's tender requirement. Any change in specified work hours will require Contractor' approval or concurrence. Any overtime work by Subcontractors must be approved by Contractor's representative. Contractor will not withhold its approval for occasional spot overtime to complete a work such as that required to complete a concrete pour or to leave the job-site in a safe condition. Subcontractor shall fill out the form of "Application for Overtime Work"(Attachment No.4) and submit to Contractor for approval a day before commencement of the overtime work.

b) All after hour security will be the Subcontractor's responsibility. Subcontractor are required to take reasonable security measures such as: (1) locking tools, safeguarding materials, equipment, building, etc., with substantial locks, (2) eliminating easy access to inside building, (3) installing outside lights if building is in a dark area, and (4) keeping a night light on inside buildings where appropriate.

c) The initial entry and final exit of all subcontractor employees to the plant area and camp area each day shall be through assigned gates only. Subcontractor employees should confine their activities to their assigned work site. If necessary to move between work sites, such movement shall be restricted to established roadways and walkways. Movement of operating unit areas, loitering or visiting other Subcontractor's work sites is prohibited. Subcontractor's employee assigned work will not enter control rooms, contractor's area workshops, or other buildings unless required in the performance of their work.

d) Subcontractor employees and their visitor will not be allowed to enter the plant with cameras. There are specific requirements regarding the use of camera equipment in the plant. Consult contractor's representative for any photographic work required in the plant.

4.8 Report by Guard

(1) Daily Report

Upon completing the days duties, Guards shall prepare a daily report. (Attachment No.6) Items to be checked are as follow:

- Doors or Windows, Open or Broken?
- Trespassers?
- Fire or Property Damaged?
- Rubbish Accumulation?
- Fire Hazard Observed?

- Violation of Rules?
- Smoking Violation?
- Fire Equipment Missing?
- Security Lights Off?
- Dangerous or Obstructed to Exits?
- Others?

The Field safety manager shall compile these reports into a Weekly Report and submit to the Site Manager.

(2) Incident Report

The Field safety manager shall prepare a report on any security incidents and submit it to the resident Site Manager, covering the 5 Ws and 1 H (WHAT, WHO, WHEN, WHERE, WHY AND HOW) as soon as possible. (Attachment No.5)

4.9 Subcontractors' Security

The Subcontractors' areas, such as warehouses, material stockyards or prefabrication shops, shall, as a rule, be protected by the Subcontractors' Security.

The Subcontractor may with the consent of Contractor, provide adequate fencing around their areas or temporary areas perimeters, if required.

The Subcontractors shall provide sufficient quantities of portable fire extinguishers, lights, and notice boards in or around their facilities and areas.

In case of security violations, the Field safety manager will issue an "Instructions for Corrective Action" to the Subcontractor. The Report on Action Taken shall be returned to the Field safety manager without fail by the date given on the form.

Attachments:

1. Material Gate Pass
2. Routing
3. Contractor Vehicle Pass
4. Application For Overtime Work
5. Incident Report
6. Daily Security Report
7. Contractor I.D Request Form
8. Job Classification Code
9. Gate Identification Card
10. Vehicle Gate Identification

Attachment No. 1

Material Gate Pass

Time : _____												Date : ____/____/____			
Validity : Two(2) hours only															
Issued To Company/Dept.															
I.D No.								Name							
Packing No.								Vehicle Plate No.							
Note : The name and I.D No. is authorized to pass through the security Gate with the material as described below															

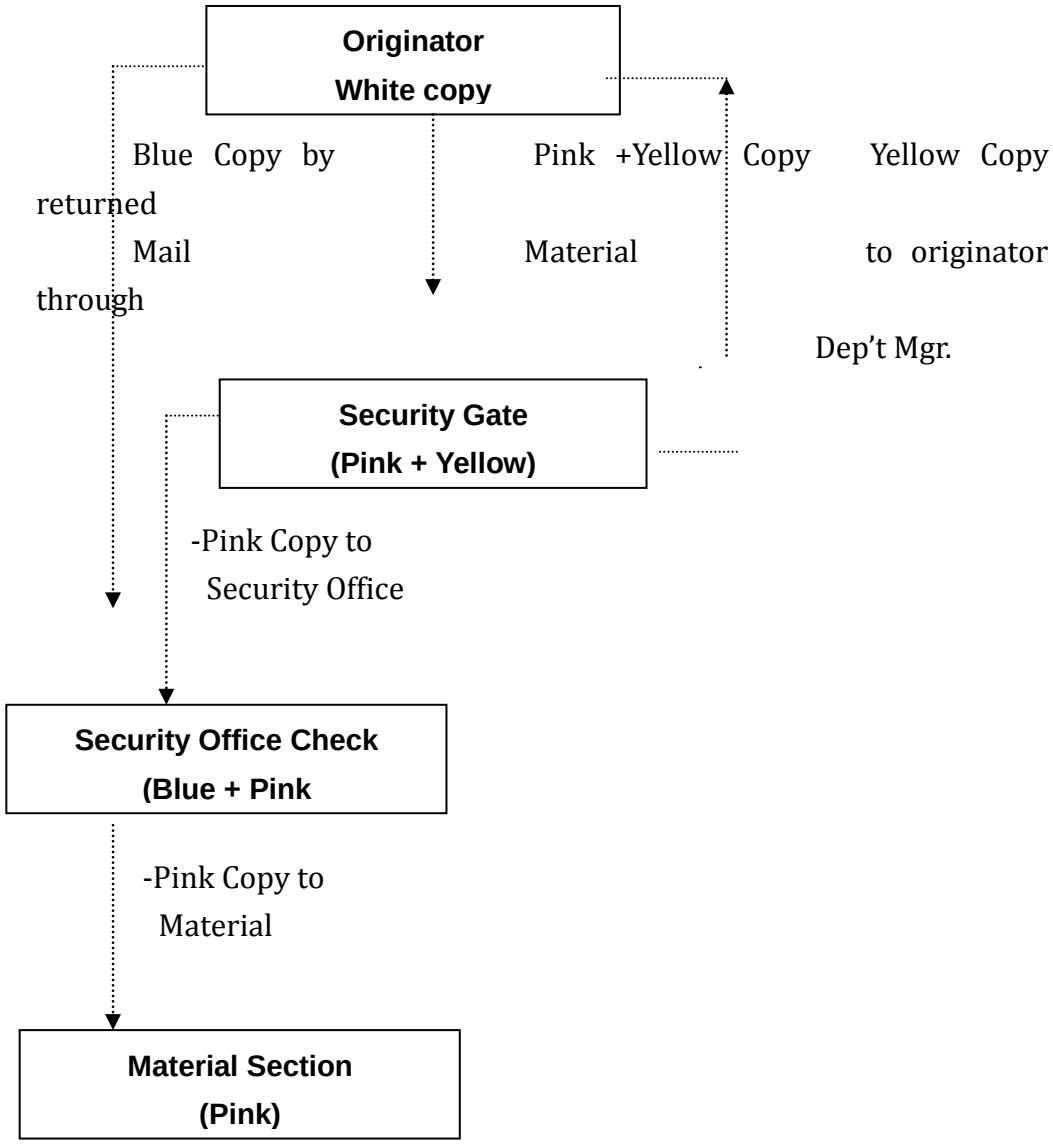
Item No.	Description of Material Authorized to pass	Unit	Quantity

Total Items Authorized to Pass	Contractor Material	( )	Subcontractor Material	( )
To be Transferred to :				

Authorized By	Checked by
Name :	Name :
I.D No.	I.D No. :
Department :	Signature :
Tel No. :	Date :
Signature :	Received By
Date :	Name :
	Signature :

Attachment No. 2

Routing



Attachment No. 4

Application For Overtime Work

1. Contractor or Subcontractor's Name :

2. Date and Scheduled Hours for Overtime :

   Date. _____ From _____ To _____

3. Reason for the Overtime :

4. Name of Project and Location of Work Site :

5. Number of Employees Working :

6. Site(S) Gates to be Used :

7. Applicant :

   Subcontractor's Name _____

Attachment No. 5

Incident Report

To : Safety Manager

From :

Copy To : Administration Manager

Date & Time of Incident :

Place of Incident :

Report :By _____

Name & ID No

Department or Company _____

On _____

Date & Time

Description of Incident:

Property and Persons Involved:

Countermeasures Taken or Suggested:

Date Reported:_____ Reported by (sign)

Attachment No. 6

Daily Security Report

To : Safety Manager

From :_____ ID Number_____

Guard's Name

Property : Guard Post No _____ OR Patrol _____

Date & Time : From _____ To _____

No.	Findings	Action Taken	Remarks

_____ _____

Date Guard's Signature

Attachment No. 7

Contractor ID Request Form

Renewal
Lost

Please Type The Information Date : / /

Company name			
Employ Name		Father Name	

Iraq

I.D Number	
Place Issued	
Issued Date	

R.P

Number	
Issued Date	
Valid Date	
Place Issued	

Pass

Passport Nationality

Number	
Date Issued	
Place Issued	
Validity Date	

Pass

Nationality	
Date of Birth	
Department	

Safety Department, : Manager Approval

Please issue ID card for this employee for the period / / until / /

Name :_____ Signature _____Date :_____

To : Security Section

The person above attended the Basic Safety Orientation

Safety Supervisor_____

For Security Section Use Only

Issue Date: | | | | | | | | | New ID Numbe | | | | | |

Valid Date | | | | | | | | |

Renewal	**Replacement**
Old ID No	Old ID No
Issue Date	Issue Date

Valid Date									Valid Date								

Remarks		Justification	
Signature		Signature	
Date		Date	

Issued By		Reviewed By		Received By	
Name		Name		Name	
Signature		Signature		Signature	
Date		Date		Date	

Attachment No. 3

Vehicle Stickers Request

Date : / /

☐ New	☐ Renewal
☐ Parking Sticker	☐ Contractors

Requestor Information	Vehicle Information
Name :	Maker Type :
Dep't :	Model Color :
ID No :	Plate No : Door No :
Driving License Details	
D.L No.	Issued Date : / /
Place of Issued :	Expiry Date : / /
For Parking Sticker	For Company Vehicle Only
Section :	Inside Plant Exit/Entry Pass
Signature : Phone :	Approved By :
For Contractor Vehicle Only	
Contractor Name :	
Contract No :	Duration :From / / To / /
Pass Duration : From : / /	To : / /
Contractor Representative	Authorized Area ( )
Name :	Dept Manager Approval
Sign :	Name :
Stamp :	Sign : Date : / /
For Security Use Only	

	Safety Manager Approval
	Sticker No : Issued By : Name & ID No.
	Expiry Date : / / Sign ;

Attachment No.8

Job Classification Code

Indirect		Code ID
Management	Construction Manager	C-MG
	Construction Superintendent	M-SP
Field Engineer and Supervisor	Civil	A-E
	Architectural	K-EB
	Steel Structure	K-ES
	Erection	I-ER
	Mechanical	I-E
	Piping	L-E
	Electrical	E-E
	Instrumentation	J-E
	Insulation	O-E
	Painting	N-E
	Draftsman	D-E
Coordinate, Control, Planners	Administrative Personnel	M-AP
	Unload/Transp. Coordinator	M-TC
	Material Coordinator	M-MC
	Cost/Schedule Controller	M-CS
Accounting Clerical		M-AC
QC inspector		M-QC
Safety Supervisor		M-SS
Other Indirect Manpower		M-IM
Direct	Foreman	X-FO
	Welder	X-W
	Pipe Fitter	X-PF
	Rigger	X-RG
	Iron Worker	X-IW
	Electrician	X-EL
	Brick Mason	X-BM
	Concrete Worker	X-CW
	Plumber	X-PL
	Carpenter	X-CP
	Rebar Worker	X-RW
	Insulator	X-SW
	Painter	X-IS
	Equipment Operator	X-PT
	Driver	X-EO
	Helper	X-HP
	Plasterer/Cement Mason	X-IF

Note ; 1)Others include clerks, secretaries, Nurses, Office Boys, Car drivers, Warehousemen, Guads/ Watchman, Cooks, and the like.

2)”X”in Job Classification Code to be replaced by appropriate FWC code

A	Civil	K	Buildings/Structures	S	Subcontractors
E	Electrical	L	Piping	T	Tanks
F	Fired Heaters	N	Painting	Y	Temporary Facilities
I	Equipment/Install	O	Insulation		
J	Instruments	P	Pre-commissioning		

Attachment No. 9

Gate Pass Identification Card

Project Name: …….. Pass Identification	
Identification No. : Name : Contractor No. : Validity :_____ Issued Date :_____ Safety Manager :_____	Photo

Note: the size of identification card shown on above is not Actual

Attachment No.:10

Vehicle Gate Identification Card

Project Name: ……

Vehicle Gate Identification Card

I.D No. : Plate No :

Manufacture : Maker/Model :

Driver Name : Type of Vehicle :

Validity :_____

Issued Date :_____

Safety Manager : _____

Note: Size of identification card shown on above is not actual .

A color coding and large numbers may be used in addition to the above for identification of Plant in the Site.

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Equipment & Facilities

OIL&GAS PROFILE

2015

General Equipment

1	Crane	Benz(2624)(10 ton)	12
2	Crane	15 to 50 (ton)	19
3	Crane	80 to 130 (ton)	10
4	Crane	140 to 260 (ton)	9
5	Crane	300 ton	5
6	Crane	350 ton	5
7	Hydraulic excavator	PW100	2
8	Hydraulic excavator	PC200	9
9	Hydraulic excavator	PC220	37
10	Hydraulic excavator	902(W)	1
11	Hydraulic excavator	912	4
12	Hydraulic excavator	Poclain	1
13	Hydraulic excavator	H 55N	1
14	Hydraulic excavator	PC650	4
15	Hydraulic excavator	PC 450	1
16	Hydraulic excavator	PC 400	6
17	Portable air compressors	atlas copco GA 110	4
18	Portable air compressors	250 cfm	35
19	Portable air compressors	600 cfm	15
20	Portable air compressors	900 cfm	28
21	Trucks Mixer And Auto mixer	2628(7 cum)	25
22	Trucks Mixer And Auto mixer	N110(7cum)	15
23	Trucks Mixer And Auto mixer	2624	20
24	Trucks Mixer And Auto mixer	Bma 2600	6
25	Diesel Generator	100 kw	13
26	Diesel Generator	150 to 400 kw	16
27	Diesel Generator	400 to 600 kw	12
28	Diesel Generator	800 kw	12
29	Concrete pump	_	11
30	Water jet	canjet	3
31	Shotcrete	Aliva(250)	5
32	Shotcrete	Aliva(252)	37
33	Shotcrete	Aliva (260)	3
34	vibratory rollers	Tire roller	5
35	vibratory rollers	plastes	9
36	vibratory rollers	sheeps foot	4
37	Bulldozer	D155	71

38	Bulldozer	D65	7
39	Bulldozer	D85	15
40	Bulldozer	PR29	3
41	Wheel- loader	w90	21
42	Wheel- loader	w120	20
43	Wheel- loader	w260	1
44	Wheel- loader	w300	1
45	Wheel- loader	w400	3
46	Wheel- loader	w450	3
47	Wheel- loader	w420	7
48	Wheel- loader	w470	37
49	Wheel- loader	988b	11
50	Motor Graders	Gd705 (R/A)	14
51	Motor Graders	Gd661	8
52	Motor Graders	14 g	1
53	Road header	ET 170	3
54	Road header	4PP	2
55	Road header	Am 50	2
56	Road header	Paorat	1
57	Road header	DM 45	3
58	Boomer	281(atlas copco)	4
59	Boomer	352 (atlas copco)	4
60	Boomer	353(atlas copco)	2
61	Hydraulic hammers	ICE(40 TON)	1
62	Hydraulic hammers	Rammer Npk	2
63	Hydraulic hammers	Rammer (E64/C)	2
64	Hydraulic Drills	drill wagon	12
65	Hydraulic Drills	250(mobile)	2
66	Hydraulic Drills	Roc 642	2
67	Hydraulic Drills	Roc6722	5
68	Hydraulic Drills	Roc6742	5
69	Hydraulic Drills	Hd 600	1
70	GEO TECHNICAL DRILLERS	computer Testing Equipment which are duly calibrated & available on vesseb	1
71	GEO TECHNICAL DRILLERS	Hydro drill-250(Mobile)	1
72	GEO TECHNICAL DRILLERS	Skb-4	1
73	GEO TECHNICAL DRILLERS	SPT (standard penetration Test)	3
74	GEO TECHNICAL DRILLERS	Vane Test equipment for shear Test	1
75	GEO TECHNICAL DRILLERS	CPT(Cone Penetration Test)	1

76	GEO TECHNICAL DRILLERS	SOIL / ROCKTESTING LABORATORY	1
77	SURVEYING EQUIPMENTS	TOTAL STATION	6
78	SURVEYING EQUIPMENTS	DGPS LEICA System soo	3
79	SURVEYING EQUIPMENTS	LEVELING INSTRUMENT	3
80	SURVEYING EQUIPMENTS	THEODOLITE	12
81	SURVEYING EQUIPMENTS	DISTOMAT	5
82	SURVEYING EQUIPMENTS	ECHO SOUNDER	3
83	SURVEYING EQUIPMENTS	GEOACOSTEC SIDE SCAN SONAR	1
84	SURVEYING EQUIPMENTS	GEOPULS SUB - BOTTOM PROFILER	1
85	SURVEYING EQUIPMENTS	GEOMETRIC G- 886 MAGNETOMETER	1
86	Piling Hammers(Disel hammers)	k35	7
87	Piling Hammers(Disel hammers)	k25	4
88	Piling Hammers(Disel hammers)	k65	1
89	Piling Hammers(Disel hammers)	k45	4
90	Piling Hammers(Disel hammers)	Delmag46	1
91	Piling Hammers(Disel hammers)	Delmag100	1
92	Piling Hammers(Disel hammers)	Vibratory Hammers	7
93	loader	w90	21
94	loader	w120	17
95	loader	w260	1
96	loader	w300	1
97	loader	w400	3
98	loader	w450	3
99	loader	w420	8
100	loader	w470	30
101	loader	988b	11
102	loader	L-120	3
103	Trucks & Tankers	(1921-1924)	98
104	Trucks & Tankers	ACTROS 1840	25
105	Trucks & Tankers	2624	145
106	Trucks & Tankers	2628	21
107	Trucks & Tankers	(N10,N12)	13
108	Trucks & Tankers	MACK	6
109	Trucks & Tankers	808	3
110	Trucks & Tankers	911A	25
111	Trucks & Tankers	Water Tanker(all type)	50
112	Trucks & Tankers	Fuel Tanker(all type)	14
113	Rectifier	SAE 400 CK1278-5	10
114	Car	405	30

115	Car	Toyota	10
116	Car	Paykan	20
117	Car	Toyota	18
118	Car	Mazda	24
119	Supply Boat	Multi purpose	1
120	Landing craft	Multi purpose	4
121	Tug Boat	-	4
122	Tug Boat	-	8
123	Barge	flat	10
124	Barge	flat	10
125	Barge	supply	8
126	Barge	flat	12
127	Barge	flat	10
128	Barge	split	3
129	Hyballmachine (rov)	Underwater camera	1
130	Fast Patrol Boat	-	As Required
131	Barge	split	7
132	Barge	back hoe	1
133	Barge	jack up	2
134	Barge	crane	2
135			
136			
137			
138			
139			

Heavy Cranes:

We are so honored to declare that with having the most equipped cranes and specialist manpower as well as having lifted and installed more than 110,000 tons of heavy and super heavy equipment in international projects, Petro Sahel is the biggest group to lift & install heavy and super heavy equipment in Iran which has the ability to lift up to 1,250 tons.

Petro Sahel has since registered some records of lift & install equipment with 660, 770, and 930 tons weight and with 115 m height. It is now trying to increase its working capability up to 2,000 tons lifting hard and complex projects in order to be known as the first brand in the field of lift & install heavy and super heavy equipment.

The development speed of port and refinery facilities especially in the field of petrochemical industry depends on the capabilities of the machinery and the specialties of site operational workgroups. In this regard, Petro Sahel Company is famous for having light, heavy and super heavy cranes and some special records of lift & install, load & unloading the country and the region.

Petro Sahel may well be considered as one of the biggest companies owning cranes and knowledge of lift & install super heavy equipment in the region. The cranes include: more than 180 cranes with a capacity over 10-tons, several site cranes with a capacity under 10-tons, one 1,250-ton crane, one 700-ton crane, three 650-ton cranes, three 450-ton cranes, several 130-ton and 100-ton cranes, all of which are new and under the best technical and engineering conditions and they enjoy mechanized management safety system for repairs and maintenance.

- **CC6800 :**

Crane Type: Crowler Crane
Model: CC6800
Group: Heavy
Country of Origin: Germany
Manufacturer: TEREX
Pro. Year: 2010
Lifting Capacity: 1250 Ton

- **QUY 700 :**

Crane Type: Crowler Crane
Model: QUY 700
Group: Heavy
Country of Origin: Chine
Manufacturer: XCMG
Pro. Year: 2012
Lifting Capacity: 700 Ton

•SL6000 :

Crane Type: Crowler Crane
Model: SL6000
Group: Heavy
Country of Origin: Japan
Manufacturer: KOBELCO
Pro. Year: 2011
Lifting Capacity: 600 Ton

•SL4500 :

Crane Type: Crowler Crane
Model: SL4500
Group: Heavy
Country of Origin: Japan
Manufacturer: KOBELCO
Pro. Year: 2011
Lifting Capacity: 450 Ton

PETRO SAHEL
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Heavy Cranes

SL 4500

CC 6800

SL 6000

QUY 700

PETRO SAHEL

Significant Service Vessels:

To purchase, procure, and use of modern and equipped operating and supporting vessels with high power of marine maneuvering and exclusive capabilities for those institutions, contractors and companies which are active in onshore and offshore projects is inevitable. Therefore, Petro Sahel has embarked on providing and managing more than 50 vessels including various types of barges, i.e. crane barge, split barge, flat barge as well as other marine services vessels such as tugboats and supporting vessels to fulfill its projects in hand.

Petro Sahel vessels and marine light and heavy equipment include five jack up barges in different levels and capacities, ten tugboats and supporting vessels with high technical specifications and shipping characteristics as well as several light vessels with high maneuvering power and navigation and servicing abilities under different marine conditions.

•Hadi 110

Manufacturing Year & Country: 1976 Netherlands

Overall Length: 50.29 m

Body Width: 11.58 m

Body Height: 4.42 m

Gross Tonnage: 687 ton

Engine Power: 1540 KW

•Yavar 5

Manufacturing Year & Country: 2007 China

Overall Length: 31 m

Body Width: 12 m

Draught: 1.5 m

Engine Power: 450 KW

Generators: 2×50 KW

•Yavar 6

Manufacturing Year & Country: 2007 China

Overall Length: 31 m

Body Width: 12 m

Draught: 1.5 m

Engine Power: 450 KW

Generators: 2×50 KW

- **Yavar 7**

Manufacturing Year & Country: 1986 China

Overall Length: 43 m

Body Width: 16 m

Draught: 1.5 m

Engine Power: 450 KW

Generators: 2×50

- **Ghader 120**

Manufacturing Year & Country: 1980 Singapore

Overall Length: 32.20 m

Beam: 7.40 m

Draught: 2.37 m

Engine Power: : 2×21500 BHP

Generators: 2×90 kw + 1×120 kw

- **Ghader 1**

Manufacturing Year & Country: 1983 Singapore

Overall Length: 55 m

Beam: 12 m

Draught: - m

Engine Power: 2×1500 BHP

Generators: 200 kw

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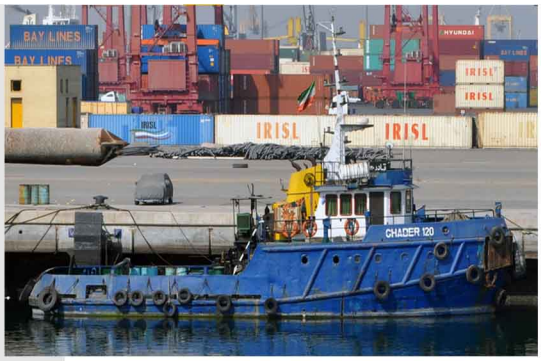
Significant Service Vessels

Ghader 120

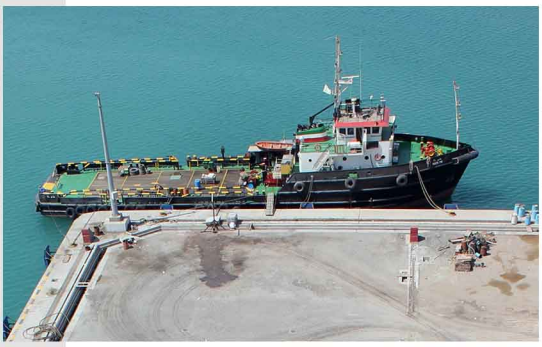


Ghader 1

Yavar 7

Yavar 6

Hadi 110



PETRO SAHEL

Yavar 5

PETRO SAHEL
www.Petro-Sahel.com

Projects

OIL&GAS PROFILE

2015

- **subject:**

(O300) Assaluyeh 5th Olefin plant C

- **Scope of work:**

Execution of all works and activities such as civil, mechanical, electrical, instrument, piping … for construction of 5th olefin plant to produce 500,000 tons of ethylene per year. Major activities of the project include:

- Fabrication of 5500 tones steel structures
- Installation of 5 Furnaces (3400 tons)
- 400,000 Dia. inch Piping works
- Installation of 1100 tons fixed equipment
- Installation of 550 tons rotary equipment
- Electrical and instrument works (17 Km cabling works)

- **Date of Commencement:**

6th June, 2006

- **Date of Termination:**

6th June, 2007

- **Client:**

Morvarid Petrochemical Company (MPC)

- **Price:**

50,000,000 USD

- **Physical Progress%:**

% 100

PETRO SAHEL
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PETRO SAHEL

(O300) Assaluyeh 5th Olefin plant C

- **Subject:**

(O301) Damavand Petrochemical complex utility and offsite EPCF

- **Scope of work:**

Construction of Phases 1, 2 and 3 of power plant and steam generation unit, industrial air separation unit, production of industrial and potable waters, gas distribution facilities, wastewater treatment and waste incineration. This project will supply utility and carry out offsite services for 24 petrochemical complexes that will be located in Assaluyeh petrochemical complex (2th site). Major activities of the project include:

- Power and steam generation plant:
    - Power: 1650 MW(10 gas turbine generation)
    - Steam: 3300 ton/h- HRSG boiler 330 ton/h (7 units)
- Air Separation unit:
    - Oxygen- 605,000 Nm^3/h
    - Nitrogen- 90,000 Nm^3/h
    - Service Air - 20,000 Nm^3/h
    - Instrument Air - 60,000 Nm^3/h
- Water and intake:
    - Double stages RO desalination unit plant (mixed bed) - 40,000 m^3/day-3 units
    - Double stages RO desalination unit plant - 90,000 m^3/day-3 units
- Waste water treatment plant:
    - COW unit, 425 ton/h – 3 units
    - POW unit, 200 ton/h – 3 units
    - STP unit, 30 ton/h – 3 units
- Incineration unit:
    - Static furnace, 3100 kg/hr- 5 units
    - Rotary furnace, 133 kg/hr - 1 unit

- **Date of Commencement:**

30th December, 2012

- **Date of Termination:**

30th September, 2015

- **Client:**

National Petrochemical Industries Company- Damavand Petrochemical Company

- **Price of contract:**

2,620,000,000 Euros

- **Physical Progress%:**

% 5

PETRO SAHEL
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PETRO SAHEL

(O301) Damavand Petrochemical complex utility and offsite EPCF

- **Subject:**

(O302) Gachsaran New Gas Compressor Station EPC

- **Scope of work:**

Construction of a gas compressor station in Dasht-E-Gaz area near liquid gas factory (NGL 1200) with a capacity of 880 MCFPD in order to inject South Pars gas and sure gases to Gachsaran oil field. Major construction activities of the project are as:

Item No.	Description		Quantity	Unit
1	Concrete works		5,000	m^3
2	Excavation		70,000	m^3
3	Back fill & sand fill		35,000	m^3
4	Steel Structures		300,000	Kg
5	AG Piping	CS	20,000	ID
6		SS	4,000	ID
7		LTCS	2,000	ID
8	Fixe equipment Installation		37,000	Kg
10	Rotary equipment Installation		150,000	Kg

- **Date of Commencement:**

20th February, 2009

- **Date of Termination:**

22nd September, 2013

- **Client:**

National Iranian South Oil Company (NISOC)

- **Price of contract:**

58,000,000 Euros

- **Physical Progress%:**

% 100

PETRO SAHEL
www.Petro-Sahel.com

(O302) Gachsaran New Gas Compressor Station EPC

- **Subject:**

(O303) Construction of cooling water system for Kavian petrochemical complex (EPC)

- **Scope of work:**

- Engineering, supply of materials and equipment, Construction, installation and commissioning of the cooling water system for Kavian Petrochemical Complex located on Assaluyeh Port with a capacity of 94,000 m^3/h.
  Major activities of the project include:

  - Installation of 10 suction chambers (Depth of water: 40 m)
  - 10 Poly Ethylene marine pipeline (Dia.: 1600 mm, total length: 11.5 Km)
  - Dimension of Basin: 70x55x15 m.
  - Onshore pipeline (Dia.: 2000 mm, length: 5 km) for cooling and fire water
  - Dimension Weir box structure 28x26x16 m
  - Dimension of Return water canal (L: 850 m, W: 6 m, H: 4 m)
  - Dimension of Collector (L: 11 m, W: 12 m, H: 6.5 m)
  - Installation of 11 sea water main Pumps.
  - Installation of chlorination package.

- **Date of Commencement:**

14th April, 2007

- **Date of Termination:**

18th may, 2011

- **Client:**

Kavian Petrochemical Company

- **Price of contract:**

110,000,000 USD

- **Physical Progress%:**

% 100

PETRO SAHEL
www.Petro-Sahel.com

(O303) Construction of cooling water system for Kavian petrochemical complex (EPC)

- **Subject of contract:**

(O304) Kish gas field water treatment and cooling water system (EPC)

- **Scope of work:**

- Engineering services, procurement of materials and equipment, Building construction, installation, commissioning and other services for the construction of water intake and water treatment facilities in Garzeh zone of Hormozgan Province. Major activities of the contract include:
  - Sea is transferred by pumps at rate11,000 m3/h
  - Electro pumps with capacity of 2200 m3/h (2 + 5)
  - Diesel Pumps with capacity of 1100 m3/h (1+)
  - Desalination Capacity is 95 m3/h

- **Date of Commencement:**

25th April, 2009

- **Date of Termination:**

25th April, 2011

- **Client:**

Petroleum Engineering and Development Company

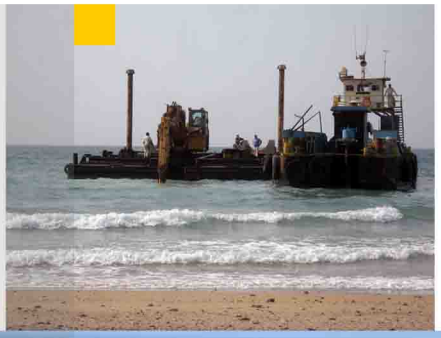
- **Price of contract:**

30,000,000 Euros

- **Physical Progress%:**

% 100

PETRO SAHEL
www.Petro-Sahel.com



PETRO SAHEL

(O304) Kish gas field water treatment and cooling water system (EPC)

- **Subject:**

(O305) Mahshahr oil and oil products storage tanks EPC

- **Scope of work:**

Design and construction of strategic oil products storage tanks (#16) with the capacity of 300,000 cubic meters in Mahshahr. Major activities of the contract include:

- 16 storage tanks for oil products
- Fire fighting water tanks
- Preloading Activities
- Loading and distribution terminals
- Installation of loading arms
- Execution of all civil works
- Construction of all required buildings

- **Date of Commencement:**

28th August, 2008

- **Date of Termination:**

28th June, 2012

- **Client:**

National Iranian Oil Engineering & Construction Company(NIOEC)

- **Price of contract:**

90,000,000 USD

- **Physical Progress%:**

% 100

PETRO SAHEL
www.Petro-Sahel.com

(O305) Mahshahr oil and oil products storage tanks EPC

- **Subject:**

(O306) Mahshahr export jetties renovation(EPC)

- **Scope of work:**

The offshore section of Mahshahr exporting terminal development project includes demolition and reconstruction of 6 old existing export/import jetties of oil products, include ships of a maximum capacity of 80,000 tone. The jetties are of pile and deck type connected with dry land by access bridges. The project scope consist of supplying lines, loading equipment, instrument and fire-fighting systems too. Major activities of the contract include:

- Destruction and reconstruction of 6 old jetties.
- Driving of 19,000 meters vertical centrifugal pile.
- Driving of 2500 meters steel slope pile.
- 8700 cubic meters In situ concrete
- Fabrication of 7800 m3 prefabricated parts.
- Installation of mechanical equipment

- **Date of Commencement:**

14th October, 2007

- **Date of Termination:**

13th December, 2011

- **Client:**

National Iranian Oil Engineering and Construction Company (NIOEC)

- **Price of contract:**

85,500,000 Euros

- **Physical Progress%:**

% 100

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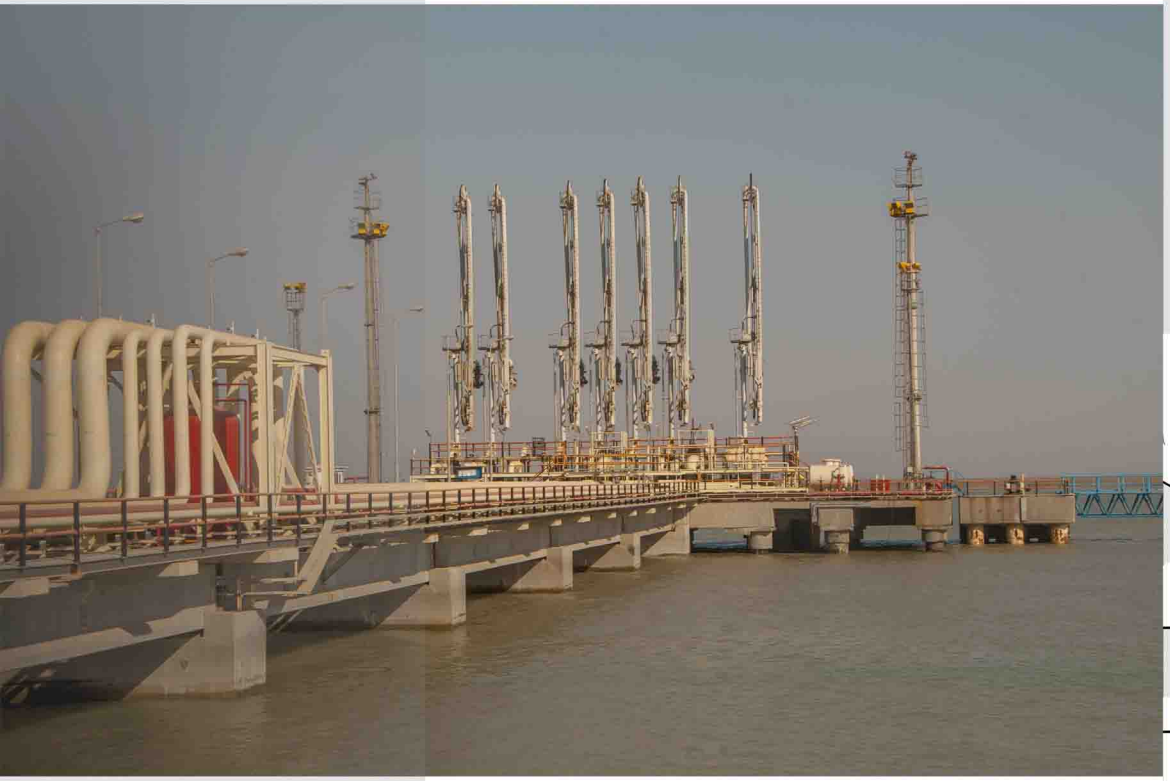

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(O306) Mahshahr export jetties renovation(EPC)

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(O306) Mahshahr export jetties renovation(EPC)

- **Subject:**

(O307) Construction of Gas and lignified gas plant (NGL 3200) EPCF

- **Scope of work:**

Construction of gas and liquefied gas factory (NGL 3200)b in western part of Karoon River. Main scope of the project includes:

- NGL plant
  - Reception Facilities
  - Gas sweetening
  - Condensate stabilization
  - NGL Recovery
  - Polishing Recovery
  - Compressor station
- Utility units:
  - Water treatment unit
  - Fire fighting
  - Fuel gas system
  - Fuel oil
  - Chemicals supply
  - Steam generator
  - Waste water treatment, …
- Pipelines
  - C2+ pipeline (55 Km, 16inches)
  - Methane pipeline (174 Km, 36 inches)
- High pressure substation(400/132 KV, 132/33 KV)
- Power transmission line, 40 km, 132 KV

- **Date of Commencement:**

9th July, 2013

- **Date of Termination:**

9th July, 2017

- **Client:**

Iranian Petroleum Engineering and Development Company

- **Price of contract:**

1,400,000,000 US Dollars

- **Physical Progress%:**

% 7.5

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www.Petro-Sahel.com

(O307) Construction of Gas and lignified gas plant (NGL 3200) EPCF

- **Subject of contract:**

(O308) Pardis petrochemical complex cooling water system (EPC)

- **Scope of work:**

Construction of basin intake of the sea & transfer line from sea to the intake facilities platform, implementation of pumping and CCTV installation, execution of electrical installations and devices, installation & Commissioning of heat exchangers for the recharge of 54,000 m^3/h. Major activities of project include:

- Construction of Sea water intake (basin)
- Installation the Plate heat exchangers (16+1)
- Related electrical and instrumental systems.
- Installation of the Chlorination package.
- Supply line from the sea to the platform (two HDPE pipeline, Dia.: 2.4 m, length: 850 m)
- No. of pumps on the plat form: (3+1), Capacity: 18,000 m^3/ h
- Closed loop pumping installations (2+1 horizontal pumps, capacity: 20,000 m^3/ h)
- Closed loop water supplying line 96"(Dia: 96 inch., Length: 4,000 meter)
- Construction of all required buildings.

- **Date of Commencement:**

22nd January, 2007

- **Date of Termination:**

22nd February, 2010

- **Client:**

Pardis Petrochemical Company

- **Price of contract:**

60,000,000 USD

- **Physical Progress%:**

% 100

PETRO SAHEL
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(O308) Pardis petrochemical complex cooling water system (EPC)

- **Subject:**

(O309) Persian Gulf oil star refinery project C

- **scope of work:**

Engineering, procurement of materials and equipment, construction and installation of equipment for Units 25 & 45 of Persian Gulf Star Oil Refinery.

- **Date of Commencement:**

5th November, 2011

- **Date of Termination:**

20th March, 2015

- **Client:**

Persian Gulf Oil Star Company

- **Price of contract:**

68,500,000 Euros

- **Physical Progress%:**

% 98

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(O309) Persian Gulf oil star refinery project C

- **Subject**:

(O310) Piping works and equipment installation in phases 15th and 16th southern Pars C

- **Scope of work:**

Performing all Piping Operations include above ground & underground Piping, civil, equipment installation, electrical, instrument and pre commissioning of plant. Major activities of the project include:

Item No.	Description			Quantity	Unit
1	Concrete works			12,000	m^3
2	Steel Structures			3,100	ton
3	Piping	AG	CS	49,000	ID
4			AS	58,000	ID
5			SS	35,000	ID
6			GRP	2,450	ID
7		UG	CS	24,500	ID
8			GRP	10,500	ID
9	Fixe equipment Installation			2,500	ton
10	Rotary equipment Installation			500	ton
11	Heavy Lift items			4,000	ton

- **Date of Commencement:**

23rd November, 2008

- **Date of Termination:**

23rd December, 2011

- **client:**

Pars oil and gas company (POGC)

- **Price of contract:**

55,000,000 USD

- **Physical Progress%:**

% 100

PETRO SAHEL
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(O310) Piping works and equipment installation in phases 15th and 16th southern Pars C

- **Subject:**

(O311)Kharg Island Propane and butane tanks (C)

- **Scope of work:**

Implementation, pre-commissioning and commissioning assistance in construction of lateral double wall storage tanks for propane / butane of Kharg Petrochemical Complex. Major activities of the project include:

- tank Height : 38m Diameter) :internal:40 m ,external :42 m)
- Storage capacity :40,000 m^3 in - 40 °c
- The out door temp. up to 50 °c.
- Construction of the upper slab pile on 170 concrete piles.
- Careful supervision of the Weir company
- Using high quality materials sand was supplied from MINAB (Marine distance: 600 km)
- Air arising method for installing the roof

- **Date of Commencement:**

23th August, 2006

- **Date of Termination:**

23th May, 2009

- **Employer:**

Kharg Petrochemical Company (KPC)

- **Price of contract:**

20,000,000 USD

- **Physical Progress%:**

% 100

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(O311)Kharg Island Propane and butane tanks (C)

- **Subject:**

(O312) **Refurbishment works for SIRRI Oil Field Platforms EPC**

- **Scope of work:**

Engineering, construction and installation works of 8 well head platforms ,1 production platform and 1 welfare platform including Structuring, Piping, Mechanical, Electrical and Instrumentation operations as well as painting, sand blasting, pre-commissioning and commissioning. Major Purposes of the project are:

- Increasing the crude oil production of D and C fields
  from 30,000 BPD to 75,000 BPD.
- Increasing of refining capacity in SIRRI Island
  from 100,000 BPD to 150,000 BPD.
- Increasing the injection of sea water capacity
  from 80,000 BPD to 120,000 BPD.

- **Date of Commencement:**

24th February, 2007

- **Date of Termination:**

27th August, 2011

- **Client:**

Iranian Offshore Oil Company (IOOC)

- **Price of contract:**

85,500,000 Euros

- **Physical Progress%:**

% 100

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PETRO SAHEL

(O312) Refurbishment works for SIRRI Oil Field Platforms EPC

- **Subject:**

(O313) Southern Pars 15th and 16th phases' water treatment and cooling water system EPC

- **Scope of work:**
- Supply of cooling water, fresh water and fire fighting needed by phases 15 and 16 refinery units. Major activities of the project include:

  - 9 sea water main and 12 auxiliary pumps
  - Marine polyethylene pipeline, Dia.: 1600 mm,
  - Length: 12.6 Km
  - 10 first and second filtration
  - 9 automatic filtration systems
  - 4 boilers.
  - chlorination package (2+1),capacity: 145 Kg/hr
  - Air compressor package, capacity: 1100 m^3/ hr

- **Date of Commencement:**

5th November, 2006

- **Date of Termination:**

4th May, 2010

- **Client:**

Pars oil & gas company (POGC)

- **Price of contract:**

90,000,000 USD

- **Physical Progress%:**

% 100

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(O313) Southern Pars 15th and 16th phases' water treatment and cooling water system EPC

- **Subject:**

(O314) Southern Pars phase 13th LPG Storage Tanks EPC

- **Scope of work:**

The project is consist of 4 LPG tanks include 2 Butane tanks and 2 Propane tanks. All of the tanks are two shelled, concrete and steel. Major activities of the project include:

- Butane Service temperature: -20°c
- Butane Tanks Capacity: 35000 m^3
- Butane tanks diameter: 42 m
- Butane Tanks Height: 30 m
- Propane Service temperature: -50° c
- Propane Tanks Capacity: 45000 m^3
- Propane tanks diameter: 56 m
- Propane Tanks Height: 30 m

- **Date of Commencement:**

22nd November, 2010

- **Date of Termination:**

20th March, 2015

- **Client:**

Pars Oil and Gas Company (POGC)

- **Price of contract:**

60,000,000 USD

- **Physical Progress%:**

% 71

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(0314) Southern Pars phase 13th LPG Storage Tanks EPC

- **Subject:**

(O315) Sulfur storage and exportation facilities development EPC

- **Scope of work:**

Engineering, procurement, construction, installation and commissioning of automated warehouses as well as Sulfur Export facilitation including 2 storage sheds, the receiving granules system, ship loading and unloading. Major activities of the project include:

- Construction of two sulfur storage facilities with a minimum capacity of 36000 Tons.
- Granule reception system at 3500 Tons per day
- Installation of a ship loader with discharging capacity of 1000 Tons per day of sulfur for loading of the ships up to 50,000 DWT capacity.

- **Date of Commencement:**

20th December, 2006

- **Date of Termination:**

20th September, 2010

- **Client:**

Pars Oil and Gas Company (POGC)

- **Price of contract:**

22,477,000 Euros

- **Physical Progress%:**

% 100

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PETRO SAHEL

(O315) Sulfur storage and exportation facilities development EPC

- **Subject:**

(O316) ILAM 13th olefin feeding pipeline EPC

- **Scope of work:**

Engineering, supply of equipment, construction, installation, and pre-commissioning of ethylene pipeline for ILAM Petrochemical Complex. Major activities of the project include:

Item No.	Description	Quantity	Unit
1	Pipeline	127,000	meter
2	Piping	2,000	ID
3	Insulation	107,000	M^2
4	Optical Fiber	127,000	meter
5	Excavation	3,700,000	M^3

- **Date of Commencement:**

21st January, 2011

- **Date of Termination:**

21st April, 2014

- **Client:**

Ilam Petrochemical Company

- **Price of contract:**

75,000,000 USD

- **Physical Progress%:**

% 100

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PETRO SAHEL

(O316) ILAM 13th olefin feeding pipeline EPC

- **subject:**

(O317) LNG and LPG tanks in phase 13th of southern Pars EPC

- **The scope of work:**

- Liquefaction, storage, and exporting of gas condensate;
- Construction of 3 LNG reservoirs each with a capacity of 140,000 cubic meters and 2 LPG reservoirs each with a capacity of 35,000 cubic meters. Major Activities of the project include:

  - 3 LNG storage tanks with capacity of 40,000 m^3
  - 2 LPG storage tanks with capacity of 25,000 m^3 (one tank for propane and the other for butane)
  - Gas storage at -162 °c.
  - The outdoor temperature up to 50 °c.
  - Raising the roof , using compressed air

- **Date of Commencement:**

20th October, 2007

- **Date of Termination:**

20th October, 2011

- **Client:**

Iran Gas Liquefying Company (POGC)

- **Price of contract:**

125,000,000 Euros

- **Physical Progress%:**

% 100

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(O317) LNG and LPG tanks in phase 13th of southern Pars EPC

- **subject:**

(O318) Kharg NGL Plant EPC

- **scope of work:**

- The Construction of Kharg NGL plant including design, procurement Construction and Commissioning of NGL Plant & LPG Tanks;
- Marine Construction including intake & berth, Compressor Station Utility, Liquefaction, Sweetening, industrial & office buildings.
- Products of the project will be as:

Name of product	Quantity (tons / year)
Methane	2,644,000
Ethane	755,000
Propane	736,000
Butane	416,000
Pentane	147,000
Condensates	339,000

- **Date of Commencement:**

18th September, 2006

- **Date of Termination:**

18th December, 2015

- **Client:**

Iranian offshore Oil Company (IOOC)

- **Price of contract:**

1,206,000,000 Euros

- **Physical Progress%:**

% 44

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(O318) Kharg NGL Plant EPC

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Records & Achievements

OIL&GAS PROFILE

2015

Records: Oil and Gas

- Implementation of 1761 ID of welding in a single working shift
- Floating and installing 1,000m spools in -10m depth from open waters level
- Designing and construction 5 inundation units with total capacity of 225,000 CBM/hr
- Constructing 6 LPG, LNG tanks with total capacity of 514,000 CBM
- Designing and constructing 16 oil products tanks with total capacity of 300,000 CBM
- Installing water treatment unit with capacity of 180 CBM/hr
- Constructing 258Km of oil and gas transmission lines
- Pipe laying on Persian Gulf bed (Dia 2,400mm, L 850m) for Pardis Inundation project
- Installing Propane Butane double-purpose tank roof of Kharg petrochemical complex in air raising method
- Constructing and floating the basin (concrete structure, W: 8,500 tons) with a modern method for the first time in the Middle East in Pardis Inundation project
- Record on constructing LPG tanks of 13th phase of Southern Pars from foundation to air raising within 201 days
- Reducing foreign made materials of LPG tanks of 13th phase of Southern Pars from 22 to 5 units
- Organizing and successful completion of air raising works of the first LNG tank roof in Iran (approx. W 750 tons) in March 2010 within 60% of the expected time based on the latest global LNG tanks construction standards
- Constructing steel structures (340 tons/ week)
- Record on installation of pre-fabricated caisson (190 pcs./week)
- Record on offloading and installing the heaviest refinery based pallet in the country (W 800 tons) with extraordinary precision in 13th phase of Southern Pars
- Installing urea and ammonium tower (W 650 tons, H 33m) in Marvdasht Petrochemical Complex in September 2011
- Installing two 275-ton packages in Tehran Shahid Tondgouyan Refinery in October 2011
- Offloading and taking delivery from ship, transportation and installation of 23 packages and heavy equipment of 180 and 772 tons of Iran LNG Treatment Complex
- Installation works of some pieces of equipment of 15th and 16th phases of Southern Pars in October 2011
- Installation and transportation works of heavy equipment of phase 13th of Southern Pars
- Installation and transportation works of heavy equipment of Persian Gulf Star Refinery of Bandar Abbas, etc.

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Certificates

OIL&GAS PROFILE

2015

PETRO SAHEL
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CERTIFICATE

This is to certify that

پترو ساحل توسعه خلیج فارس
Petro Sahel Persian Gulf Development

Petro Sahel Persian Gulf Development Company

No.6, Attar Street, Vanak Square
Tehran - Iran

has implemented and maintains a **Integrated Quality, Environmental, Occupational Health and Safety, Customer satisfaction and Complaints Management System.**

Scope:
Management and Execution of Infrastructural Projects Including Civil, Oil, Gas and Petrochemical Projects

An audit, documented in a report, has verified that this integrated management system fulfills the requirements of the following standards:

ISO 9001	BS OHSAS 18001	ISO 14001
2008 edition	2007 edition	edition 2004 + Cor 1 : 2009

The validity of this Certificate is based on the validity of the DQS Certificates issued or each standard separately, With the following registration numbers :

467785 QM08 (Certificate DIN EN ISO 9001:2008)
467785 UM (Certificate DIN EN ISO 14001: 2004 + Cor 1 : 2009)
467785 BSOH (Certificate BS OHSAS 18001:2007)

DQS GmbH

G. Blechschmidt

Götz Blechschmidt
Managing Director

Member of IQNet

Certification Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main
Administrative Office: DQS Iran, 1201 Unit , 12 Floor, No. 55, Daryaye Noor Building, Sarafraz St., Shahid Beheshti St, 1587698411 Teheran - Iran

PETRO SAHEL
www.Petro-Sahel.com

CERTIFICATE

This is to certify that

پترو ساحل توسعه خلیج فارس
Petro Sahel Persian Gulf Development

Petro Sahel Persian Gulf Development Company

No.6, Attar Street, Vanak Square
Tehran - Iran

has implemented and maintains a **Quality Management System**.

Scope:
Management and Execution of Infrastructural Projects Including Civil, Oil, Gas and Petrochemical Projects

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2008

Certificate registration no.	467785 QM08
Valid from	2014-01-26
Valid until	2017-01-25
Date of certification	2014-01-26

TGA-ZM-02-90

DQS GmbH

G. Blechschmidt

Götz Blechschmidt
Managing Director

Certification Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main
Administrative Office: DQS Iran, 1201 Unit , 12 Floor, No. 55, Daryaye Noor Building, Sarafraz St., Shahid Beheshti St, 1587698411 Teheran - Iran

PETRO SAHEL
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CERTIFICATE

This is to certify that

پترو ساحل توسعه خلیج فارس
Petro Sahel Persian Gulf Development

Petro Sahel Persian Gulf Development Company

No.6, Attar Street, Vanak Square
Tehran - Iran

has implemented and maintains a
Occupational Health and Safety Management System.

Scope:
Management and Execution of Infrastructural Projects Including Civil, Oil, Gas and Petrochemical Projects

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

BS OHSAS 18001 : 2007

Certificate registration no.	467785 BSOH
Valid from	2014-01-26
Valid until	2017-01-25
Date of certification	2014-01-26

german association for excellence GAE

DQS GmbH

G. Blechschmidt

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Petro Sahel Persian Gulf Development Company

No.6, Attar Street, Vanak Square
Tehran - Iran

has implemented and maintains a **Environmental Management System**.

Scope:
Management and Execution of Infrastructural Projects Including Civil, Oil, Gas and Petrochemical Projects

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 14001 : 2004 + Cor 1 : 2009

Certificate registration no.	467785 UM
Valid from	2014-01-26
Valid until	2017-01-25
Date of certification	2014-01-26

TGA-ZM-02-90

DQS GmbH

G. Blechschmidt

Götz Blechschmidt
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CERTIFICATE

IQNet and
DQS GmbH Deutsche Gesellschaft zur Zertifizierung von Managementsystemen
hereby certify that the company

Petro Sahel Persian Gulf Development Company

No.6, Attar Street, Vanak Square
Tehran - Iran

has implemented and maintains a **Quality Management System**.

Scope:
Management and Execution of Infrastructural Projects Including
Civil, Oil, Gas and Petrochemical Projects

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2008

Valid from 2014-01-26
Valid until 2017-01-25
Date of certification 2014-01-26

Registration Number: DE-467785 QM08

IQNet

Michael Drechsel
President of IQNet

G. Blechschmidt

Götz Blechschmidt
Managing Director of DQS GmbH

DQS

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Tehran - Iran

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Scope:
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Registration Number: DE-467785 BSOH

Michael Drechsel
President of IQNet

Götz Blechschmidt
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Scope:
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Valid from 2014-01-26
Valid until 2017-01-25
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