RC: 693857

PASSMAN

OILFIELD OPERATIONS

CORPORATE COMPANY PROFILE

CONTACT INFORMATION

OFFICE/FABRICATION YARD:

231 TRANS-AMADI INDUSTRIAL LAYOUT
PORT HARCOURT
RIVERS STATE
NIGERIA.

TELEPHONE:

+2348033400758, +2348176413752,

+234 8182202440

EMAIL:

info@passmanoilfieldlimited.com

WEBSITE

www.passmanoilfieldlimited.com

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mission STATEMENT

To Provide The Most Effective And Reliable Engineering, Marine Civil Construction /Procurement Support Services To Oil & Gas Companies, Corporate Organizations, Government Parastatals In Nigeria, Premised On Sound Competitive Engineering Management Plan, and Promoting Indigenous Technology In Compliance with International Standards, ISO 14001, 9001etc

CORPORATE BRIEFS

PassMan Oilfield Operations is an incorporated company in Nigeria to provide services to the Oil and Gas industries. The primary business objective of the company is to perform highly technical mechanical engineering in the oil and gas production operational activities and undertake turnkey engineering projects for the Oil and Gas fields operations.

PassMan Oilfield Operations through contracting services is retained as mechanical engineering experts to a number of companies and an active partner with foreign affiliate companies for the provision of professional construction. The company operates from its head office in Port Harcourt, Rivers State - Nigeria.

PassMan Oilfield Operations has a staff strength comprising of Mechanical Engineering, Corrosion Engineers, Quality Control Engineers, Material/Metallurgical Engineers, Professional level 1,2,3 Rope access Blasters, and painters Professional Painters,(TSA)Thermal Spray Aluminium, who have vast experience in their field of expertise with relevant experience from offshore and onshore both in Nigeria and abroad.

The company's strength comes from the reliability of its staff of engineers, constructions specialists, technical support and administrative personnel. The combination of expertise and experience makes for a totally integrated and powerful team with a solid financial base predicated on sound financial management.

THE COMPANY

ORUBO ISIKAN **(ADMIN DIRECTOR)**

Has served in reputable Oil and Gas companies for over 7 years before taking the leadership mantle of Passman Oilfield Operations Ltd. He is discipline and dedicated engineer with a vision.

MR. AUGUSTINE DICK (C E O)

Mr. Augustine Dick is a career administrator and seasoned engineer with broad knowledge of personnel and industrial relations. Having been an engineer for many years and handled personnel of all categories in the oil and gas industry, he combines friendliness with forthrightness to enforce discipline amongst his team. He is a motivator and a target oriented person.

PATRICE MKOMBOU (PROJECT MANAGER)

Has varied industrial relations experience. Having worked in the oil and gas sector for over 10 years. He is capable of containing any kind of crises in the company with added advantage of expertise in protocol matter .a rope access level 3 trainer and instructor

EKELEMCHI CHIJIOKE(PAINT INSPECTOR)

is a seasoned engineer that has served in the civil, oil and gas sector as a Technical Director for over 8 years. His years of experience can attest of his expertise.

BANKERS

PassMan Oilfield Operations Ltd maintains an operations account with the following banking institutions.

FIRST BANK OF NIGERIA
ZENITH BANK NIGERIA
GUARANTY TRUST BANK
ECOBANK

Our Bank Accounts are free from any form of liabilities. Consequently, a guaranteed facility provision is being arranged to sustain our operations.

ENGINEERING OPERATIONAL HISTORY

PassMan Oilfield Operations has earned a deserved reputation for high quality services rendered over many years to oil producing companies since incorporated.

SCOPE OF SERVICES

MECHANICAL ENGINEERING

Pipeline Networking, Fabrication, Welding and Installation,

CORROSION CONTROL

Abrasive Blasting and Painting, Coating, for pipes, Platforms, Jackets, Tanks, Production facilities and Gas Plants facilities , Steel Framed Buildings & Shelters, Storage Tanks & Silos, Towers & Derricks, Heli-Decks etc.

CORROSION PROTECTION

Sand/grit blasting and application of protective coating to

Fabrication steel structures
Fabricated Pipes and fittings
Storage Tanks
Radiograph (X-ray)
Ultrasonic, Identification and Analysis of metals/alloys

CATHODIC PROTECTION

Engineering & Design
Materials Procurement Installation,
Test and Commissioning

OUR FACILITIES

Engineering Office

ROPE ACCESS TECNIQUES

QA/QC Dept.

Sandblasting

Welding

Safety/Medical

Storage

Communication

Procurement

Project Management

TSA Activity

DESCRIPTION OF FACILITIES

ENGINEERING FACILITIES

PassMan Oilfield Operations has a well-equipped engineering office that is capable of handling highly diverse construction project in a variety of locations in Nigeria.

PassMan Oilfield Operations has continuously expanded its technical activity. We have developed a nucleus of engineering expertise with respect to meeting ISO 14001 standard.

PassMan Oilfield Operations has the experience, equipment and an engineering staff that offer expertise in all of the disciplines that provide innovation solutions to design and project management challenges enabling the client to maintain their budgeting constraints.

ENGINEERING

Mechanical

Piping

Process and Production

Structural

ENGINEERING APPLICATION

Fire and Safety System
Materials Take-offs
Lifting Design
Utilities Engineering
Logging System
Personnel Man-Hour
CADD System

CONSTRUCTION AND PROJECT MANAGEMENT

Complete Management of jobsite and overall project control
Scheduling, Cost and Material Control
Survey and Planning Studies
Fabrication and Yard management
Load out and Tie-Down
Launching, installation and Maintenance

DRAWING CONTROL

PassMan Oilfield Operations has a drawing control system which is managed by the Project Manager who is responsible for developing the initial drawing. List for the project including estimated man-hours for Engineering, Design, Drafting and Checking. For more detailed estimating scheduling and progress tracking the system allows each drawing to be assigned up to five (5) stages of completion and anticipated dates and associated percentages of the total estimated man-hour within each of the four (categories).

QA/QC DEPARTMENT

PassMan Oilfield Operations Quality Assurance and Quality Control is in conformity to ISO 9001 to 14001. All engineering work performed is conducted under the review of a licensed professional

engineer. Engineering documents are reviewed in a process patterned after ISO 14001 prior being submitted to the client.

Trained and experienced supervisors conduct all site activities. A copy of QA/QC manual which is applicable to engineering procedures is made handy to all supervisors at job site. **PassMan Oilfield Operations** has a quality manager who will be a line manager responsible during the entire project execution with every employee familiar with the company's policy to all quality related matters. The QA/QC representative works with each entity, i. e. Engineering, Procurement and Fabrication, Construction to verify quality is maintained by members of the team, subcontractors and vendor in accordance with project requirements.

LIST OF EQUIPMENT AND SUPPORT FACILITIES

Accessible equipment owned by **PassMan Oilfield Operations**

EQUIPMENT /PLANT	QUANTITY
45 Ton Crane	2
Swamp-Buggy	1
Swamp Boom Tractor	2
Lay Barge	2
House Boat	2
Tugboat	3
Crew Boat	4
750 CFM Compressor	5
350 CFM Compressor	2
Mobile Generator (65KVA)	2
Piling Rigging Equipment	2
Blast Hose 300 Meters & Above Dead-Man Unit	Lot
3 1/3 Airline & Coupling	Lot
Complete Tool Box	5
Mini Air Tank	4
Blast ROPE ACCESS COMPLETE KITS TSA EQUIPMENTS	15

CODES & STANDARDS

PassMan Oilfield Operations considers the following codes and standards imperative in any given project.

American National Standard Institute (ANSI)

American Petroleum Institute (API)

American Society for Testing Materials (ASTM)

Canadian Z Standard (CSA)

Manufacturer Standardization Society Specification (MSS –SP)

National Association of Corrosion Engineers (NACE)

Swedish Standards Association ISO 9000, 9001,14001.

MANAGEMENT SYSTEM

H.S.E. MANAGEMENT SYSTEM

PassMan Oilfield Operations H.S.E. management system comprises:

- Safety Management hierarchy of operation
- H.S.E. Training Programmed
- Accident reporting and investigation procedures
- Material handling and lifting procedures
- P.P.E. regulations
- Job safety analysis
- Safety meetings, tool box meetings and daily briefings and site induction for new employees.

SAFETY STANDARD DURING PROJECT EXECUTION

To enhance performance and safety, it is a policy in **PassMan Engineering Operations** that all employees are required to be on complete P.P.E and must l receive a safety lecture from site Safety Officer before job commencement.

SAFETY SURVEILLANCE SYSTEM

PassMan Oilfield Operations maintains an effective staff surveillance system in the following order.

PROJECT EMPLOYMENT PROCEDURES

- A member of staff upon employment will fill personnel forms with comprehensive date. This is kept in the personnel department for effective control and record purposes.
- Movement of personnel is controlled by a movement register. Movement from one location to another is logged stating destination, departure time, date and time of arrival etc.

- The site has an Administrative Officer who prepares daily report, meeting workers.
- The Site Safety Officer for the project at all times take note of the member of workers present/absent.
- A logbook for visitors is kept on site.

SAFETY POLICY AWARENESS

PassMan Oilfield Operations prepares and issues reports emanating from safety policy to the attention of the employees. Computerized planning system for scheduling, controlling and reporting progress of work activity is provided. Muster Point created at entrance of yard

Fire extinguishers are provided at storage locations (portable: 9kg, 6kg Co2 and Dep) Man-hour board for daily exposures are provided / safety statistics information board. Fire emergency safety signs are provided. Safety signs for hard hats, safety boots, ear muffs, lifting, blasting and ancillary operations for fabrication shops are displayed at the yard. A management safety committee acts as guardian of projects H. Q. policies and objectives.

Safety training (in-house and external) are conducted periodically. i.e.

- Industrial First Aid
- Basic fire prevention
- Site unsafe/condition auditing
- Safety induction
- Materials handling
- Defensive driving
- Accident reporting and investigating
- Safety incentive schedule boarding on simplicity, prices, publicity / safety communication is in place.

PASSMAN MEDICAL SERVICE

The sick bay serves as a mini medical evacuation center for first treatments for example minor injuries etc. It is operated every day. Only routine drugs are allowed to be used. Serious cases of ailment are sent to our retainer ship clinic for proper investigation and treatments. It has been in existence for more than three years.

The following equipment are being used in the sick bay: Autoclave, Dressing Table, Examination Bed, Drugs, Cupboard, Water Filter, Dissecting Forceps,

Stitching Forceps, Kidney Dishes, Pobic Dishes, Stainless Cup, plastic Cup, Dressing Tray with cover, Plastic Bucket with cover, Big Black Water Container, Stainless Wash Hand Basin, Scissors, Center Table, Small Refrigerator, Three Chairs, Weighing Scale, Two Plastic Container and Referral Booklet Sheets.

STORAGE

PassMan Oilfield Operations has a very strategy space for storage of materials and delicate equipment

Our **Work shop** contains the basic pre-mob equipment for corrosion control.

DATA PROCESSING & TELECOMMUNICATION SYSTEMS

PassMan Oilfield Operations has kept abreast with the latest innovations in electronics data processing and telecommunications such as telephones, VHF radios, facsimile, photocopiers etc. and E-mail capabilities in our office.

PassMan Oilfield Operations has portable computers in our office location; we would be at CLIENTS disposal to accept any modern computer with latest packages in Engineering as may be proposed time to time.

PROCUREMENT & PROJECT CONTROLS

PassMan Oilfield Operations has a well maintained Procurement Department in Nigeria. We have direct link with International Coatings and paint manufactures both in Nigeria and abroad who are assisting in minimizing project completion time through the effective use of the services listed below.

- Request for quote and preparation of Bid Packages
- Spreadsheet and Bid Recommendations.
- Project Expediting and Control.
- Purchase Order Administration
- Equipment and Material Purchase
- Inspection
- Warehousing and Shipping
- Material Expediting and Control
- Export/Import.
- Insurance Evaluation
- Custom Clearance

ORGANIZATION STRUCTURE

The official reporting and organization structure are on three levels:

- Corporate Level.
- Project Organization
- Engineering, Construction and Management level

The number of personnel deployed to a particular project assignment depends on the workload. Professional Engineers/personnel are available with the company to fill all possible positions

It is however the intention of PASSMAN OILFIELD OPERATIONS to utilized indigenous personnel on all projects awarded and perhaps deploys a few expatriate at high technical professional level to ease the execution of any projects. In order to achieve this geometries, 60% shall constitute professional engineers of **PassMan Oilfield Operations** and project sites while 40% will be left for indigenes of the areas where the proposed project is to be carried out in compliance with our Community Affairs, Safety, Health and Security to enhance a peaceful co-existence between expatriate and indigenes

PROJECT PERSONNEL RESPONSIBILITIES

The organizational aspect of Project Management covers

- The Project Manager
- The Project Team and the responsibilities for project implementation.

While the procedural aspect covers, project definition, quality and safety, project phases, scheduling and cost control and implementation measures. The company through its structure has

an effective control of the project management system (team) based on:

- Mutual trust and respect among the project team and third parties
- Mutual sharing of resources, knowledge and information
- Well defined rules and responsibilities.

PROJECT ORGANIZATION AND REPORTING STRUCTURE

PROJECT MANAGER

Is responsible for satisfactorily executing the detail engineering, procurement, fabrication, construction and commissioning of the assigned work in conformance with approved design documents and the contractual requirements in terms of quality, safety, efficiency and schedule.

HE IS RESPONSIBLE FOR

- The proper implementation and satisfactorily operation of the quality control procedures
- Assuring that all construction operates and materials are in compliance with contractual requirements the QA program plan and approved project Quality control system, which comprised of administrative procedures, quality control procedures and work instruction.
- Approving the Quality Assurance program and requesting services necessary to assure implementation of this program, referenced procedures and instructions and other project requirements.
- Providing assistance to and working with project management in developing, implementing and maintaining the detailed procedures and instructions necessary to correctly implement this program plan.

- Providing an independent channel of communications to project management on quality related problem s and initiating necessary management action to resolve program deficiencies; and, assuring solutions have been achieved.

QUALITY ASSURANCE AND SAFETY MANAGER

He is the assigned authority of all quality and safety matters and repot on a regular basis to the Managing Director. He keeps the project manager informed about the non-conformities, and progress of the corrective actions.

RESPONSIBILITIES WHICH MAY HAVE BEEN DESIGNED ARE

- Performing independent quality assurance monitoring and audit activities including engineering disciplines (as necessary) to meet applicable contractual requirements.
- Performing qualification surveys of suppliers and subcontractors where required: evaluating supplier and sub contractor quality assurance/quality control programs where required.
- Coordinating quality assurance detailed procedures; reviewing and evaluating project quality control programs and procedures for adequacy and effectiveness.
- Performing pre-planned, periodic and random audits to measure overall effectiveness of the quality assurance program.
- Performing systematic audits and reviews of individual program elements and procedures to evaluate the adequacy of the control systems.
- Reporting quality problems identified during quality assurance audits to responsible project management for resolutions and/or further evaluation. Project management in turn, is responsible for

identifying (in writing) the action to be taken to prevent recurrence of significant deficiencies affecting quality.

- Recommending work stoppage and corrective action through project management and the Quality Assurance Manager, or their designees.
- Providing follow-out audit on previous quality assurance audits to verify implementation of solutions to identified problems and accomplished on a timely basis.
- Preparing a report with distribution to project management and the Quality Assurance Manager for activities described above.
- Reviewing and approving for quality assurance content. Project Quality Control Procedures that are used to control, implement and/or document conformance to project requirements.

The quality assurance authority has un-restricted access to all project activities and unrestricted communication channels to project management and individuals assigned to the project.

PROJECT ENGINEER

Reports to the project manager. He is responsible for providing the project with authoritative interpretation of design documents and for providing the engineering and technical support required assuring that construction and technical support required assuring that construction and fabrication conforms to the design requirements on site as well as manufacturing facilities/shops.

HE IS RESPONSIBLE FOR THE FOLLOWING DUTIES

- Performing design or translation of design documents into project specifications, drawings, used for procurement, fabrication, installation and testing activities. This responsibility is shared

where required with other representatives of the appropriate disciplines.

- Preparing, reviewing and approving the project scope of work procedures and instructions developed to support construction activities.
- Maintaining a properly protected and retrievable project file of legible record documentation.
- Preparing, reviewing and approving purchase requisitions to assure incorporation of requirements from design documents; assisting in qualification, administration, and surveillance of suppliers and subcontractors as requested, and reviewing and approving supplier/subcontractor drawings and technical procedures as recurred.
- Provide technical guidance on storage, handling, and preservation of materials and equipment, and establishing procedure for control and identification and equipment released from manufacturing facilities/shops and site storage area.
- Controlling fabrication and installation with a system of documented procedures and instructions, which provide for the required control and documentation?
- Controlling special processes including welding, heat treating, cleaning, testing, examination and calibration of test and measuring equipment with documented procedures, personnel, and equipment. Specifying engineering disposition on identified non-conformance; providing technical instructions to construction.

PLANNING/COST CONTROL ENGINEER

HE IS RESPONSIBLE FOR THE FOLLOWING DUTIES

- Preparation, in co-operation with the project manager of the overall and detailed program.
- Management of all programming means and/or systems.
- Preparation and collection of date, and working out of the job monthly report taking information from other project functions
- Analysis of the program of the work carried out and to be carried out, by preparing statistical reports and suggesting actions for improvement.
- Preparation and implementation in co-operation with the project manager of the control systems.
- Preparation and collection of data of monthly cost control report taking information from other project functions.
- Analysis of the cost deviations versus estimate by preparing statistically reports and suggesting actions for improvement.
- Preparation of estimate for project change order and claims.

PROCUREMENT\MATERIAL COORDINATOR

HE IS RESPONSIBLE FOR

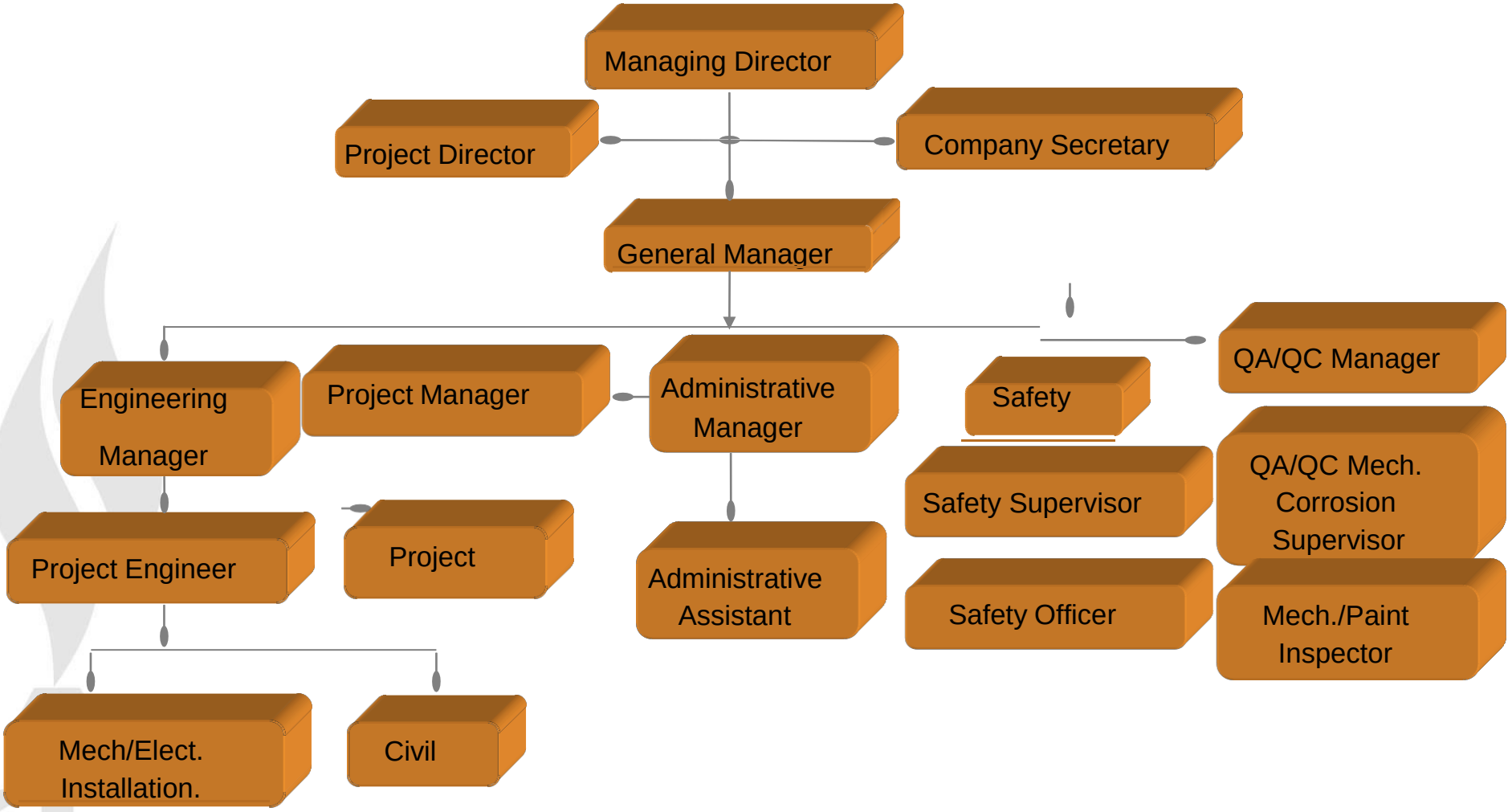
- Logistic support required for performing the construction/installation activities as provided in the contract
- Arranging Procurement procedures to conform with technical specifications.
- Ensure clearing of goods from the Port and air freighting
- Receiving material at the warehouse and their inspection against purchase order documents.
- Handling, storage and shipping of materials as appropriate,

- Filling of all material documentation and certification as specified in the P.O
- Co-ordination of all project inspection and testing activities carried out by the Inspection and Expediting Department.

ADMINISTRATIVE AND FINANCIAL MANAGER

THE ADMINISTRATIVE MANAGER IS RESPONSIBLE FOR:

- Carry out the project financial programming
- Assure out the financial resources necessary for the project through banks or client's payment.
- Implementation and maintenance of the project accounting
- Administration of personnel including industrial relations.
- Perform the control of vendors and sub-contractors invoicing
- Prepare expenditure and commitment curves for the project
- Maintain a full and complete record of the cost break down, according to the accounting codes agreed with the client.


Managing Director
Project Director
Company Secretary
General Manager
Engineering Manager
Project Manager
Administrative Manager
Safety
QA/QC Manager
Project Engineer
Project
Administrative Assistant
Safety Supervisor
QA/QC Mech. Corrosion Supervisor
Safety Officer
Mech./Paint Inspector
Mech/Elect. Installation.
Civil

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INTRODUCTION

THIS DOCUMENT HAS BEEN WRITTEN IN ORDER TO:

- Identify relationship with their host communities
- Present **PassMan Oilfield Operation's** policy on health, safety and environment at work to their employees and others
- Identify **PassMan Oilfield Operation's** responsibility for health, safety and environment at work with third parties.
- Provide security to all her personnel.

IT IS PASSMAN OILFIELD OPERATION'S POLICY TO:

- Establish a cordial relationship with their host communities
- Establish and maintain a healthy and safe workplace for all its employees and others on its premises.
- Conduct its activities in a responsible manner to ensure the health and safety of people in the vicinity of its operations and protect the environment in her area of operation.

Therefore we must:

- Understand our host community.
- Develop, design, operate and maintain safe processes.
- Provide and maintain safe systems of work and emergency plans.
- Ensure employees are aware of their responsibilities, are involved and are properly trained.
- Collect, collate and disseminate information and experience.

2.0 SAFETY POLICY STATEMENT

PassMan Oilfield Operations is an Nigerian based Professional Coating Applicators and engineering service company that has a well articulated safety policy for both her employees and contractors. This explains the reason behind the annual allocation of a substantial amount of her

working capital to the health, safety and environmental sector. In all projects executed extra care is taken to ensure that projected targets are achieved without putting the health and safety of employees to danger.

The Company equally considers the impact of her projects on the host community and the preservation of the natural habitat found within and around the project site, taking into consideration the laid down legislation on safety matters and environmental pollution.

3.0 SAFETY NOTICE

The management of PASSMAN OILFIELD OPERATIONS has approved the following basic safety rules, which will guide all employees and those doing business with the company. It is imperative that all concerned should co-operate to ensure a safe working environment.

4.0 COMMUNITY AFFAIRES PROGRAMME/POLICY

Since our inception, we have ceaselessly aimed at initiating and sustaining a very cordial relationship and harmony with our host communities and their leaders.

As an indigenous company that has worked and participated in many projects in various communities in Nigeria, we have acquired a lot of experience in community relations over the years. We have come to grasp with the various reasons why our community relations exist between companies and their hosts especially where there are bargains. Out of these wealth of experience, we have been able to chart a solid community relations programme which is subject to revision depending on the social, economic and cultural beliefs, and expositions of our host community.

Respect has become a marked work backed by understanding based on the need for economic improvement of both the company and the community.

Based on these, the company community relation's policy states as follows:

RECRUITMENT

1. 60% of unskilled Labour requirement for any project must be sourced from the host community were available.
2. Consideration must be given to the host community for skilled and highly skilled manpower requirement where they are available.

REMUNERATION

The company operates a standard remuneration scale commensurate with what is obtained in the market and agrees with the scale of her client and government. In special cases, the company may enter into negotiations with the community representatives to decide an appropriate remuneration.

COMMUNITY RELATIONS AND MEETINGS

On commencement of any project within a community, a channel of cordial relationship is opened through the office of the administration manager who initiates meetings with the community leaders as at when necessary. This depends on the type of project and its duration. The company appoints officer who attends the meetings in the absence of the Commercial Manager.

The outcome of such meetings is immediately brought to the notice of the management. Ceremonial invitations are mutually accepted and honoured.

COMMUNITY POLITICS

PassMan Oilfield Operations does not engage directly or indirectly in any local community politics nor interfere in the administrative processes of the village except when invited by the leaders of the community.

ASSISTANCE

PassMan Oilfield Operations assists our host community in especially educational and other self help development projects that offer / provides improved living standards to the members of the community in which we operate.

We also listen to the members of the community on the best ways we can assist in improving their economic and social well being.

HEALTH

Our site clinics are open to emergency cases involving members of our host communities.

Our educational endowment fund is open to children of our staff from the host communities.

We conduct in-house assessment of the level of relationship we have with the host community and seek ways of improvement.

Our basic goal has been to operate with minimum negative impact on the host community so that at any point in time, we find it better than we met it. This has left us with the finest tract record in our operations in the various communities we have worked in.

SECURITY

Every of our work site is demarcated for special monitoring by the company's security guards.

ACCESS

Every visitor is required to put on and display conspicuously the visitor's identity card. Workers are required to wear their identity cards while in the premises. All vehicles entering and leaving the premises are subject to checking and cross checking (NO EXCEPTIONS).

ENVIRONMENT

Recognising the critical link between a safe, healthy environment and increased productivity, we are committed to the protection and enhancement of the environment in all areas of our operation. Such stewardship is indispensable to our continued business success. Therefore, wherever we are working, environmental issues will play a major role in determining the methods of fabrication in our workshops and the assembly and erection of our products on site.

WE WILL

- Integrate environmental considerations into our business planning and decision making processes, including new technological and engineering methods and acquisition and divestitures.
- Comply with all applicable legal regulatory requirements and to the extent we determine it appropriate, adopt more stringent standards for the protection of our employees and our areas of operation.
- Identify, assess and manage environmental risks associated with our operation to eliminate or reduce the likelihood of adverse consequences.

6.0 HEALTH AND SAFETY

PassMan Oilfield Operations is involved in the design and fabrication of structural steel works, associated civil works, storage vessels, barges, buoys and other engineering related projects, for which the main objective

is to produce high quality products in the most economic and safe manner.

We aim to operate in such a way that the health and safety of our employees and others, who may be affected in the course of our work, are safe guarded and due care is paid to the environment.

In order to prevent accidents, a proper attitude to safety rules and the application of safe work methods from acceptable industry standards are expected from all our employees. It is essential that every staff have a clear understanding of the right and safe way to do his job.

The **PassMan Oilfield Operations** management shall on a continuous basis, exercise the responsibility for the removal of, or otherwise rendering harmless, all operational hazards through the provision of training and healthy staff motivation.

Every employee is responsible for both his personal safety and continued positive attitude towards safety. As a company, **PassMan Oilfield Operations** accepts that safety is good business and will orient its workforce to be committed to, and maintain, a safe and healthy working environment at all times.

To put this policy into effect, management and supervisory staff are responsible for the overall safety of their personnel. We expect every employee to report unsafe situations to the supervisors, and every supervisor to remove unsafe situations. Every employee must be familiar with our policy in respect of safety, health and environment and comply with our rules and regulations.

7.0 LEGAL REQUIREMENTS

This policy statement will be made available to all employees and a reference copy retained at all locations. Employees will be informed of all subsequent amendments. The company fully understands that there will

be different statutory requirements governing its operations, depending on the location. In view of this, the company has decided that it will maintain its policy for health and safety matters on all its projects at all locations, even where this may be in excess of statutory requirements. The company policy will be expended and will be supported at the highest management level.

8.0 RESPONSIBILITY

Immediate responsibility for health, safety and environmental protection rests with the line supervisor, be it in the workshop or on the building site. He has to strictly follow the company's rules and regulations and report to the management any unsafe or hazardous situations, which comes to his notice. It is his responsibility to issue clear and explicit working instructions to his staff. Compliance with these instructions by every employee will help to ensure safe working procedures and the effective use of approved protective clothing and equipment. The ultimate responsibility for ensuring the implementation of the policy for health and safety at work and for making the necessary protective clothing and equipment available, naturally, rests directly with the **PassMan Oilfield Operations** management.

However, the above does not absolve the individual staff of his own personal responsibility in respect of his own safety and that of his co-workers.

EVERY EMPLOYEE HAS TO CARRY HIS SHARE OF THE RESPONSIBILITY

For example, if a driver is using a car with worn-out tires then the driver is responsible, not the owner of the car!

9.0 POLICY IMPLEMENTATION

The implementation of our health, safety and environmental policy is fully the responsibility of the management of **PassMan Oilfield Operations.**

- Sufficient resources are allocated to provide and maintain conditions and places of work that are, so far as is reasonably practicable, safe and healthy.
- Take all reasonably practicable measures to ensure that all known safety factors are taken into account in the design and fabrication of our products and the operation and maintenance of plant, machines and equipment. All areas in which work is carried out are to be operated and maintained so as to ensure, so far as is reasonably practicable, that safe and healthy systems of working are in place.
- Ensure that adequate instruction is given to all employees on all aspects of their work.
- Provide where necessary, approved protective equipment and clothing and to ensure that its proper use is understood.
- Take all reasonable steps to inform employees about materials, equipment or processes used in their work which are known to be potentially hazardous to health or safety.
- Keep all operations and method of work under review so that they can, if necessary, be reviewed in the light of practical experience and changes to statutory obligations.

10.0 SAFETY OFFICER

A safety officer will be nominated and he shall be responsible for the following:

- He is to be the Chairman of the in-house Committee for Safety, Health and Environmental Matters.

- Taking minutes of safety meetings and distribution of same.
- Regular workplace inspections and advising management on hazardous conditions noted.
- Completion of monthly safety statistics information
- Providing information on accidents.
- Liasing with the management on all matters relating to safety, health and welfare.
- Following up on workplace inspection to ensure that any corrective actions have been taken. Where items are not actioned, the nominated safety officer will immediately inform the management.

11.0 RESPONSIBILITY

These officers must be aware of their responsibilities for ensuring that all work performed under their control is carried out in a safe manner. They must ensure that:

- Safety instructions are passed on to subordinates relative to the task being performed. Subordinates must also be made aware of any inherent health and safety problems associated with that task.
- Work is performed in accordance with the company's safety standards and relevant legislative requirements.
- Reports submitted by their subordinates, which highlight unsafe situations, are followed up correctly or reported to his superiors if collective action cannot be taken immediately.
- All new employees are closely supervised until they are fully conversant with the company's requirements for safe working procedures.

12.0 GENERAL SAFETY INSTRUCTION

PROTECTIVE EQUIPMENT

Before carrying out any operation, ensure you wear the prescribed protective devices like safety helmet, goggles, jackets and booths. Do not take the risk of working without this protective equipment, as the result might be fatal.

FIRST TIME ON A MACHINE

Do not attempt to start or stop any machine/system that you are not reasonably familiar with always seek for assistance.

SAFE WORKING SPACE

Always inspect to be sure you have enough space to carry out a particular operation, get rid of likely objects that will hinder your smooth operation.

WORK ATTITUDE

Keep a safe working surrounding, think Safety all the time and maintain safe work practices.

ACCESS TO INFORMATION

Information regarding name of person responsible for health safety and environmental issues, fire warden and first aid must be displayed. Also location of first aid kit, action in the event of fire and any other emergency must be conspicuously displayed

FIRE PRECAUTIONS

A cogent fire prevention programme must be always in place, fire wardens must keep vigil and conduct regular inspection of all premises. Also all other personnel are to be given adequate basic training in the handling of extinguishers and other preventive processes like evacuation drills, use of hose reels and fire escape points.

EXTINGUISHING FIRE THAT RESULTS FROM:

- Wool, paper, plastics, rubber, wood – use water or dry powder extinguisher.
- Petrol, oil, fat, paint – use C02 or dry powder type extinguisher.
- Electrical sources – use C02 or dry powder type extinguisher.

DISPLAY CLEAR INSTRUCTION IN THE EVENT OF FIRE:

FOOT WEAR

Employee should be educated and encouraged to wear stout boots or shoes with protective soles and steel toe.

GAS BOTTLES STORAGE

Storage of LPG and acetylene bottles separately from oxygen in well ventilated and secured place. Use and store LPG and acetylene bottles in upright position.

Display warning notices “HIGHLY FLAMMABLE”

HAZARDS

When there is a hazard of any type, prohibit work in the vicinity until the hazard is removed or guarded if there is imminent danger to persons.

MASK

They should be worn in dusty conditions, special precautions are necessary when dealing with asbestos.

SAFETY HELMET

Insist upon use of Helmet in dangerous areas. Visiting personnel must always wear helmet while in construction area.

ROUTINE CHECK

Make site inspections regularly to check safety, keep a site diary. Examine the conditions of welfare facilities including first aid box. Make professional check on operating conditions of excavators, scaffolding ladders, trestles and steps, electrically operated tools and plant, first aid equipment, protective hazards removed of faulty plant installations corrected. The safety inspector must always set the right example by using safety wears like helmets, goggles, mask, gloves and protective clothing's.

CLEANLINESS

Keep site and premises tidy, the orderly stacking of materials and regular disposal of waste so as to leave clear working space and walk-ways is indicative of an efficiently managed work station.

13.0 SPECIFIC SAFE OPERATING PROCEDURES

METAL REMOVING PROCESS

These include cutting grinding, drilling, filing, welding, etc. One of the common methods that can be utilized in metal cutting is the Abrasive wheel.

ABRASIVE WHEELS

The system is powered by an electric motor while in use it is necessary to take cognisance of the injuries that can easily be caused by wheel. These can result in three ways:

- By violent ejection of fragments from a burst grinding disc.
- By contact of hands or other body part with a rotating wheel.
- By particles entering the eyes while in use.

These injuries can be avoided by carefully following the operational instructions and constantly inspecting to be sure there is no visual damage to the grind disc, the guards and the Supply power source.

Also protective goggles are provided and should be used to avoid injury to the eyes. Employees must ensure that:

- Wilful misuse or damage is not made to the system.
- Should make use of all guards and other appliances provided.
- Should report any defects they discover.

WARNING

Fatal accidents can easily be caused by unsafe usage of these systems.

14.0 WELDING SAFE PROCEDURES

Individual responsibilities in respect of the safety of all persons in the vicinity of the working area must be clearly understood by everyone. Safe working habits must be adopted by every welder, platter/welder and their helpers. The safety measures apply to Manual Metal Arc (MMA) and Metal Arc Gas Shielded (MIG, TIG) welding and grouping.

WORKING AREA

- Ensure suitable fire extinguishing equipment is readily available and maintained in good condition.
- Keep gas cylinders and hoses away from arc welding.
- Erect screens where necessary to protect other workers from “Flashes”.
- When welding in confined spaces, such as the inside of fuel storage tanks, ensure that the space is thoroughly purged and properly ventilated, that escape hatches are open and easily accessible and that a co-worker is at hand to keep watch and render assistance if required.

PROTECTIVE GEAR

- Welding operations produce heat, light radiation from the welding arc (including the invisible ultra-violet and infra-red rays) and dangerous fumes from fluxes and metal. Therefore it is important that protective equipment and clothing is used to protect all parts of the body and that the working area is well ventilated.
- A welding mask of an approved make **MUST** be worn at all times during welding operations.
- The mask and hand glove must be of a size and shape to shield the face, throat, wrist and hand.
- Where it is necessary to have both hands free, a helmet type mask **MUST** be worn.
- The mask must be fitted with an approved protective filter shaded in accordance with the relevant British Standard with higher shade numbers in dark surroundings and lower shade numbers in bright daylight.
- Protective clothing should be free from oil, grease or other flammable substances. All parts of the body including forearms should be covered.
- Cuffs on overalls, turn-ups on trousers, low-cut shoes, long hair are likely lodging places for sparks or globules of hot metal and slag and are, therefore, potential hazards.
- Wear suitable leather gloves to protect the wrist and hands.

POWER SUPPLY

- Ensure that all equipment are properly connected to the appropriate mains supply with suitable sockets and plugs and are adequately earthed.
- Keep cables free from doorways, gangways, ladders, etc. **DO NOT** use damaged cables (i.e. cables with broken insulation).
- Disconnect the power supply before joining any cables or carrying out other electrical repairs.

- Avoid hazard due to inefficient earthling of welding equipment and the welding circuit.
- All welding return leads must be securely connected by bolting or clamping to prevent contact resistance or arcing.
- Welding return leads must have ample current carrying capacity and must be kept as short as possible.
- Do not wrap the welding return cables around components, work table, scaffolding or other metallic objects.
- Welding return cables must be connected directly to the components to be welded.
- Only use electrode holders of an approved make.

ARC EYE

It is not unusual for irritation and watering of the eyes to start some hours after exposure to arc rays. When symptoms occur?

- Use an eye bath to wash the eyes with an approved eye lotion.
- Repeat at about four-hourly intervals
- If going into bright light dark glasses should be worn
- Report to the clinic as soon as possible.

GAS WELDING

The dangers inherent in gas welding has to do with the cylinders, the regulators and the nozzles.

IF A CYLINDER BECOME OVERHEATED

- Shut valve and detach regulator
- Take cylinder outdoor at once.
- Immerse in or apply water to cool cylinder until cylinder is empty.
- Contact suppliers for advice.

THE DANGER TO AVOID

a) Undue strain by blows or by mechanical damage which can cause the content of cylinder to be unstable.
b) Undue pressure increase in the cylinder causing the wall to be weakened.
c) Accidental contact of the gases with material which may react violently and cause an explosion.
d) Accidental gas escape which may become concentrated in a confined space thereby forming a fire or explosive hazard.
e) Faulty or damaged apparatus attached to the cylinder which may result in a fire or explosion.

REGULATORS

Do not use damaged regulators, use correct size spanners for tightening regulators onto cylinder. Check thread for leaks by using soapy water only.

- Leaking threads are an indication that equipment is faulty and should be replaced.
- If the gauge pointers do not return to zero when the pressure is released, the gauge is faulty and should be replaced.
- Always keep the cylinder key in the acetylene valve whilst in use so that the gas can be quickly shut off in case of an emergency.

FLASHBACK ARRESTORS

These operate by stopping the flow of gas from the cylinder should a flashback occur.

BLOWPIPES

Nozzles should be kept clean by using proper tip cleaners and not pieces of wire. Before attending to light the blowpipe, purge the hoses of air, a spark lighter for lighting blow pipes.

HOSES

All connections on hoses should be properly made using “O” clips or jubilee clips. Do not use wire to secure hoses onto any connections.

Do not use pieces of copper tubing. Acetylene can form explosive compounds if it is allowed to come in contact with copper. Hoses should be fitted with non-return valves to stop back pressure occurring.

PROTECTIVE CLOTHING AND EQUIPMENT

Goggles should be worn throughout welding and cutting operations. A note should accompany the goggle whether they are suitable for gas welding or for cutting. The lenses of goggles should have filters and should be correct shade for the application involved. Worn or damaged welding goggles should be discarded. Close fitting overalls, free from oil and grease should be worn at all times and should be made from material treated to render it flame retardant. Leather protective gloves and aprons should be worn when gas cutting, the feet should be protected from falling spark, slag or off cuts by the use of safety boots.

SURROUNDINGS

Inspect the work area before any welding or cutting operations are carried out. Remove flammable materials wherever possible, flammable materials which cannot be moved should be protected by covering with fire resistant blanket. Remember, sparks from cutting operations can travel as far as 30ft. (9.14m). In an area where there is danger of fire, have a man standing by with a portable fire extinguisher.

15.0 ARC WELDING

EQUIPMENT

The energy source is either from the mains supply or a portable engine generator. The high tension mains supply may only be connected by a competent electrician. A fused switch is to be provided as near to the transformer set as possible so that this may be easily isolated should the need arise. The transformer set should be checked to ensure it is properly earthed.

Primary leads to the transformer should be kept as short as possible and should be of the armoured type. Welding leads should not be allowed to trail for people to trip over or in water or where trolleys could damage them. An engine generator should not be used within the confines of a building because of danger from exhaust gas fumes. Inspect leads regularly for damage, avoid bare wires, join by proper cable connectors. Check regularly for earth continuity, use proper earth clamp.

PROTECTIVE CLOTHING AND EQUIPMENT

Head shields or hand shields must be used, fitted with the correct type of filter (see filter tables c & d). Leather jackets or aprons and gloves should be worn to protect all parts of the body from radiation and burns. Anyone assisting with a welding operation should be similarly protected.

- Do not handle or hold a work piece that is being welded with a wet hand glove to avoid electric shock.

SURROUNDING

Welding screens must be where there is a danger of eye damage to other people.

TABLE C

16.0 FILTER FOR EYE PROTECTION, FOR GAS AND WELDING

RECOMMENDED FILTERS

PROCESS	WITHOUT FLUX	WITH FLUX
Gas welding of aluminum and aluminum magnesium alloys, lead welding or oxy-acetylene cutting.	3/Gw	3/Gwf
Oxygen machine and hand cutting, Oxygen gauging, flame de-scaling, Silver soldering, fusion welding of Gas welding of aluminium and Aluminium magnesium alloys, lead Welding or oxy-acetylene cutting	3/Gw	3/Gwf
Zinc-base die casting, bronze welding of light gauge copper pipe and light gauge steel sheet.	4/Gw	4/Gwf
Fusion welding of copper and copper alloys, nickel and nickel alloys, steel plate, all bronze welds in heavy gauge steel and cast iron, except pre-heating rebuilding flame, maintenance welding and all hard facing.	5/Gw	5/Gwf
Fusion welding of heaving steel and heavy cast iron, fusion of cast iron, fusion welding and bronze welding of pre-heated cast iron and steel castings rebuilding large steel areas	6/Hw	6/GwE

N:B If your eyesight is falling do not use lighters fillers. Have your eyes tested.

TABLE D

RECOMMENDED FILTERS (ARC WELDING)

PROCESS	APPROX.CORRECT RANGE (AMPS)	FITTERS
MMA Coated Electrode	Continuous Up to 100	8/EW
Coverall Electrode	100-300	9/EW 10/EW 11/EW
Co2/Flux	300+	12/EW 13/EW 14/EW
MMA (Bare Wire)	Up to 200	10/EW 11/EW
MIG	200 + ...	12/EW 13/EW
Automatic Co2 Shielded Metal Arc (Bare Wire)	500+ ...	15/EW 16/EW
TIG	Up to 15 15 to 15 75 to 100 100 to 200 200 to 250 250 to 300	8/EW 9/EW 10/EW 11/EW 12/EW 14/EW

17.0 LIFTING SAFETY OPERATIONS

Lifting and lowering heavy loads can be dangerous if not competently carried out, and few of us can claim to be experts for this reason, we must endeavour to follow carefully the safety notes given here. They are not exhaustive and we must ask for assistance any time we have a doubt.

HOISTS

We should not undertake the erection, use or responsibility for a hoist and tower except where we take expert advice from trained and competent person, only hoists so certified may carry persons.

PLANNING AND EXECUTION OF LIFTING OPERATION

Must be done by a competent person or company.

UNLOADING OF VEHICLES

Resist the temptation of unloading by pushing the load off the tail board of lorry. Get a proper crane, gantry or rear support ramp.

THE LOAD

Find out the gross weight, the dimension, centre of gravity and type of load very well. Also the size of the lifting vehicle.

THE ROUTE

Plan route for mobile lifting appliances and the delivery lorry. Ensure even level, firm foundation for crane and lorry and firm bases to receive loads, also make adequate consideration for public power supply cables as you chose the route.

SAFETY TO PERSON

Provide safe and guarded access and egress.

PROTECTION OF LIFTING MACHINE AND PROPERTY

Provide protection for the lifting machine and the property both on ground and the items to be so lifted. Also provide security to prevent damage or sabotage.

SAFE WORKING LOAD

Each system has its capacity, check that you are not exceeding the safe working load. Make sure the load in lift is properly balanced from its centre of gravity. Cranes and fork lifts can overturn when used on a sloping soft or uneven soil.

THE CARE OF USE OF COMPANY FORK LIFT

The company owned and maintained forklift M-081 is used for lifting of light and medium loads and machines. Before use careful examination of system must be carried out to make sure it is working fine. Any defects must be reported at once so that it can be corrected. After correcting the noticed defect examine for leaks and chain defects before use.

LOAD IN LIFT

When the fork lift carries load, people must not stand under it as a precaution. Ensure the safe working load is not exceeded.

OPERATORS

The operator of a forklift must be well trained and experienced to handle variety of loads and system. He should be certified for the operation.

18.0 EMERGENCY RESPONSE PROCEDURES

PRACTICAL AND IMMEDIATE ACTION

In the event of an accident, quickly assess seriousness of accident. If serious, seek medical assistance **immediately** i.e. an ambulance or

nearest doctor. Make patient as comfortable as possible, apply first aid as instructed (see first ahead), remembering that the patient will almost certainly be suffering from shock and should not be left alone. Stay with the patient while some one else should report the accident and arrange for help. As soon as the person is out of danger and does not need your immediate help proceed with the following.

REPORTING & RECORDING OF SERIOUS AND FATAL ACCIDENTS

All serious and fatal accidents must be notified to the manager responsible in the shortest possible time.

He will then take appropriate actions by informing the authorities concerned as well as the patient's family (next-of-kin). He will also arrange for the family to see the patient if in hospital.

Leave the immediate area of the accident undisturbed until seen by person(s) in authority. Make a note of the date, time and location of the accident.

Make sure a full written report of an eye witness of the accident is obtained signed and dated. Take a photographs (to be used later as evidence). Carry out a further detailed investigation on the immediate and remote cause of the accident. Legal representation is then arranged if needed.

REPORTING AND RECORDING OF LESS SERIOUS ACCIDENTS

An employee who suffers any injury or accident (however small) at work must notify the company. The company must investigate and record the circumstances and report the return to work of the injured person.

THE PARTICULARS TO BE RECORDED ARE :

Full name, address and occupation of injured person. Date, time and place of accident. Cause and nature of injury. Name, address and occupation of informant.

THIRD PARTY ACCIDENT AND THEFT

This is injury to people not employed by the company third party damage, theft of property, water and fire damage, motor vehicles accidents. All details to be reported to the General Manager. Incidence of theft should be reported to the General Manager, the main contractor and the police. All claims arising from the accidents must be approved by the management before they are effected.

ACTIONS TO BE TAKEN FOLLOWING A DANGEROUS OCCURRENCE

As before, immediately report incident to the General Manager leaving every thing undisturbed until investigated by him.

- Take photograph for evidence.
- Carefully collect samples of substances making sure protective clothing is worn if they are of dangerous nature.
- Keep all damaged equipment and material. Collect signed and dated statements from witnesses including their names, address and occupation. Make notes of the times, date and location of occurrence.
- Contact manufacturer of equipment for expert advice.
- Write a comprehensive report.

REMEMBER THE ABOVE MEASURES ARE NECESSARY TO

a) Comply with local legislation.
b) To inform those responsible in the chain of command, both back to the company secretary's office and our local partners.

c) To feed back data to our safety management so that lessons can be learned and such accidents avoided in future.

19.0 FIRST AID AT WORK

The information contained here is not all encompassing about first aid but to assist those untrained to deal with an emergency while at work.

PRIORITIES

If expert medical aid is needed, send for this urgently. Do not give victim any thing to drink. Do not leave casualty unattended. The priority steps in treating a casualty are:

(a) Stopped breathing
(b) Stopped heart
(c) Unconsciousness
(d) Severe bleeding always cause shock
(e) Severe burns always cause shock
(f) Broken bones always cause shock.

FIRST AID TREATMENTS

Stopped breathing will result to death within seconds. Clear the mouth and air way of any loose obstruction, Tilt the head well backed.

Casualty may now be breathing if not sneeze the nostril together support the chin and open mouth. Blow your own breath through the casualty mouth and watch to see if chest resets. Repeat at your own breathing rate, keep doing this until breathing is restored or until competent aid comes. Never assume death. Do not leave casualty unattended. Place casualty in recovery position when breathing is restored.

SEVERE BLEEDING

Severe loss of blood may lead to death, apply direct pressure to the wound with pad or your bare hand hold it there until aid comes. Raising a limb will help reduce the blood flow. Do not leave casualty unattended. Send for medical help. Severe bleeding always cause shock.

BURNS AND SCALDS

Gently flush with slowly running cool water or immerse in cool water for at least ten minutes. Remove rings, bangles, and boots before swelling occurs. Clothing soaked in boiling water, steam or corrosive chemical should be carefully removed. Dry burn clothing adhering to a burn should not be removed. Cover injured part with clean cloth. Give sips of cold water and record what you have given and inform the doctor.

ELECTRIC SHOCK

Take no action to endanger your life. Do not attempt to rescue high voltage casualty until current has been turned off.

IN OTHER CASES

Switch off the current if person is locked to the supply, if not possible, free the person by wearing rubber glove or using something made of an electrical insulating material such as rubber, dry cloth, wood or folded newspaper.

Drag away using the casualty's own clothing if dry, BE CAREFUL not to touch the casualty's skin before the current is switched off. This must be down with uttermost care.

Do not move casualty unless in immediate danger if breathing has failed, start artificial respiration and if necessary external heart compression. Send for medical aid. Do not give anything to eat, drink or smoke. Do not leave an unconscious casualty on his back. Electrical accidents

frequently cause deep-seated burns which require expert medical attention.

FOREIGN BODIES IN EYE

Do not attempt to remove if there is difficulty or if the object is embedded or adhering to the pupil or eyeball. Attempt to remove carefully with a clean moist cloth or irrigate with clean tepid water. Cover eye with a clean pad, take casualty to hospital or obtain medical aid.

CHEMICAL IN EYE

Flush eye continuously for at least twenty minutes with copious quantities of clean water, cool water then seek medical aid.

GENERAL HINTS

When possible, wash your hands before treating open wounds. Casualty should be seated or lying down whilst being treated.

20.0 WORK SITE SAFETY INSPECTION

APPOINTMENT OF SAFETY INSPECTOR

Management shall appoint in writing an officer responsible and competent as safety supervisor (inspector).

DUTIES

Here special regard constantly to the health an safety of people at work including safe access and egress, a safe working environment and safe working methods.

Main effective accident treatment procedures and fire precautions.

To regularly carryout a safety inspection of the site and make a written report in the log book.

Report every accident however trivial so as to avoid a re-occurrence of a similar but fatal one.

Ensure compliance with local safety legislation applicable to the site or contract concerned.

Maintain a regular dialogue with any contractor engaged by CHARLIE BEN to ensure that:

a) The contractor never has cause to make any compliant of our Engineering safety supervision.
b) If the contractor is failing to promote the safety standards we would wish to maintain, then our dissatisfaction is made known to him.
c) Ensure that fire extinguishers or energized hose-reel systems are available to deal with any fire arising at site.

21.0 SAFETY TRAINING PROGRAMME

SAFETY MEASURES AT WORKSHOPS AND STORES

Management shall appoint a competent supervisor to take charge of safety maters at office, workshop and stores.

He shall ensure that a person is available always to render first aid constantly. Display notices giving directions in case of fire maintain a discipline of keeping gangways and exits clear so that persons could escape in case of fire or any emergency event if dark or smoke infested, or visibility is poor.

- Carry out fire drills and other safety rehearsal at least once a year.
- Arrange for fire appliances to be tested annually by a skilled person.
- Keep constant check on the fire alarm system. Make other regular safety inspections and make document reports.
- Regular check-on electrical systems. Installations and earthling systems of machinery.

- Hold regular safety meetings with management and the entire workers.
- Ensure that safety clothing and other protective equipment are available for use by workers and are being used as prescribed.

22.0 EXCAVATIONS

INTRODUCTION

This outlay is to give guidance upon work in excavation and is not in substitution for any of the requirements imposed by local legal requirements or obligations. Most ground will collapse once excavation work commences therefore good pre-planning and safe working procedures are essential.

If the sides of an excavation collapse while men are working there may be no escape, the end result is fatal.

SUPERVISION OF WORK

Excavation work should be carried out by a competent person.

Work carried out by a subcontractor should be inspected before use, defective material should be closely monitored.

An adequate supply of suitable timber or trench sheeting should be available at site **before** any excavation work commences.

Material to support the excavation work should be inspected before use, defective material should be rejected.

All timber/sheeting should be constructed correctly and maintained in good order.

SUPPORTING EXCAVATIONS

Sides of excavations of 1.219m (4ft) deep should be adequately supported with suitable timber, trench sheeting etc.

This requirement does not apply to excavations where the sides have been sloped (battered back) to prevent persons being struck by collapsing earth or falling objects.

The angle of the slope is dependent upon the nature of the soil being excavated. Its moisture content and the prevailing weather conditions, for example, wet clay and soil must be sloped back to an angle of 16 to 18 degrees, whilst in a dry state the angle of the slope may be steeper.

Other main points that should be considered prior to commencement of work include:

a) The nature of the ground which is being excavated
b) The depth of the excavation and presence of ground water.
c) Whether timber/sheeting can be placed in the position during and after excavation.
d) Presence of any “loose” pockets of earth from previous excavations in firm and stable ground
e) The nearness of building and/or the proximity of traffic to the excavation.
f) Whether other work is to be carried out near the excavation.
g) Whether a mechanical excavation is to be used.
h) The presence of any material stacked near the excavation
i) The length of time excavation will be open.
j) The weather condition.
k) Adequate access for men/materials.
l) Details and positions of any other existing service within the vicinity of the work e.g. water, gas, electricity, telephone, sewers etc.
m) The possibility of removing all timber/sheeting safely as back-filling of excavation proceeds.
n) Position of spoil heap from the excavation.

INSPECTION AND EXAMINATIONS

A competent person should inspect excavations over 1.219m deep on a daily basis.

Records should be kept of daily inspection.

A thorough examination should be made every seven days when any damage occurs to timber/sheeting etc. and when a fall of earth occurs. Details of examination should be recorded.

ACCESS AND EGRESS OF EXCAVATION

Access ladders should be provided, they should extend at least 1.066m (3ft 6in) above the stepping-off point and should be securely tied.

Bridge walk ways should be provided and used at crossing points.

EXCAVATIONS NEAR BUILDINGS

Extreme care should be taken when excavating ground near existing buildings unless they have previously been adequately supported.

GUARDING OF EXCAVATIONS

Any excavation more than 1.981m (6ft 6ins) deep should be protected with guard rail, barriers or be covered. A guard rail is a barrier which will prevent a person falling over the side.

Ropes and tapes should not be used as guard rails. Guard rails, barriers or cover may be temporarily removed for the access of materials / plant etc. But should be replaced as quickly as possible. Notices and warning of the dangers of excavations unless barriers or stop blocks are in place.

23.0 PERMIT TO WORK

INTRODUCTION

Situations arise in the normal course of our work which are potentially hazardous. In such situations consideration should be given to instituting a permit-to-work system in the interest of the health and safety of the people involved.

EXAMPLES OF SUCH ARE:

Work in the vicinity of a radio-active substance.

Work in confined space like

Restricted plant rooms.

Horizontal ducts.

Vertical service cores.

Work at heights and in excavations.

Welding inside vessels.

Welding in close proximity to combustible materials.

The degassing and cleansing of vessels.

Work in boilers and other vessels connected to systems under pressure.

Work upon pipelines and vessels which contain or have contained flammable, explosive, toxic or corrosive materials.

Work in the vicinity of high voltage electricity.

These safety instructions consider precautions, provisions and procedure when setting up formal permit-to-work system. The main objective is to effectively plan for, manage and control a potentially hazardous situation, to avoid risk to health and safety of person and property.

COMPANY SAFETY INSTRUCTION

Company safety instructions which are pertinent should be carefully studied when organizing hazardous work.

COMPETENCE OF THOSE IN CHARGE

Ensure that those in charge of the planning engineering execution and testing operations are sufficiently experienced to carry out their tasks having regards to the risk involved.

PROGRAMME OF THE WORK

Write out a logical programme for the work using company system of programming.

Involve the foreman, who will be in charge when writing the programme.

INCLUDES:

Starting date and time.

Estimated time for each operation

Completion date anticipated

Ensure adequate time is allowed for:

Assembly of tools, plant and material and delivery to sites.

Preparation of site, execution of main work, testing and possible re-testing, commissioning and clearing away.

Allows also float time to cater for delays and retesting.

NOTIFICATIONS AND PERMISSIONS

Notify all persons concerned of the details of the planned operation and seek agreement and approvals before implementation, including as appropriate, the client local authority, public utility and safety officer. Permission should be given in writing.

Specify the works including sketches and details drawings.

PROVISION FOR SAFETY

Where unauthorized entry or the actuating of valves or switch gear would place persons at risk, arrangements should be made to issue those involved with security devices and locks to protect them.

Permission should be obtained in writing from the appropriate authorities to restrict, interrupt, isolate or reinstate service and due regard be given to control and protection during the interruption.

ATTENDANCE BY ALL CONCERNED PARTIES DURING TEST-RUN

It may be necessary for a clerk of works, a health and safety officer, main contractors agent, insurance company inspector to be present during tests running.

REPORTS FROM SUCH EXERCISE

Reports, certificates and records to the format required by the contractor or utility undertaking should be prepared and arrangements made for completion and issue of the parties concerned. One copy should be preserved in company archives. The documentation should include company name, job name, job number. Articles of work concerned with cross-reference to specification or drawing. Testing media, designed test, actual test, duration of test, date and time of test, result of test, remarks and records and recommendation, by who carried the test, who witnessed.

COMPLETION OF WORK

The engineer and foreman should together examine completed work in the company of clerks of works and other. An operation should not be deemed completed until as disturbed services are restored, isolate parts reconnected site works cleared, test completed certificate signed and issued, permit to work forms finally completed and returned as

appropriate and clients or other informed in writing that the work is complete.

24.0 WORKING AT HEIGHT (SCAFFOLDINGS)

Working platforms are require for all works which can not safely and properly be carried out from the ground or part of a building. Ladders properly secured can be used but only for short term light work which can be carried out with one hand.

TRESTLE SCAFFOLDS

Trestle Scaffolds are intended for light work of comparatively short duration, they are simply working platform supported on “A” frames or similar type folding supports such as pointer, trestle or pare of steps.

SCAFFOLDS

Works at greater heights and intricate locations are better done with proper scaffolds, the erection of scaffolds must be properly done. Erection, dismantling and alteration of scaffolding should:

(1) Only be carried out by experienced men under competent supervision. If it is necessary to have scaffolding altered to get a particular job done, get it altered by a scaffold and make sure that the alteration is made good after the work has been done.

(2) See that the base is strong standard and vertical, fittings are tight and all necessary bracing and ties are in position and secure.

(3) Don’t over load a scaffold, if in doubt, find out what the safe load is.

(4) Make sure staked materials cannot fail off, get wire mesh between guard rail and toe-board.

(5) Keep scaffolds tidy, free from obstructions, oils and greases.

(6) Ensure your tools do not obstruct the passage way.

(7) When ascending or descending a scaffold, always use the ladder.

(8) Always hoist material up and down, don't throw them.

PREFABRICATED SCAFFOLD SYSTEM

Whatever the system used the same basic scaffolding techniques must be observed.

(1) Firm base.
(2) Standard unit plumb
(3) All joints tight.
(4) Ties to be adequate and effective.
(5) Sound bracing.
(6) No overloading.

MOBILE SCAFFOLDS (TUBULAR OR PREFABRICATED

Mobile scaffolds should always be erected by a person who has had sufficient training and experience. The following points should be observed:

1) The maximum height of mobile scaffolds should not be more than three times the minimum base-width which must not be less than 1.32m (4ft) for outside use and three and a half times base width for inside use.
2) For outside use, mobile scaffolds over 9.750m (32ft) should be tied to the building or base weights used.
3) Guard-rails and toe boards must be fixed with the possible exception of a gap to allow for stepping off the ladder.
4) A ladder must be provided for access, this should be lashed vertically to the shortest side of the scaffold.
5) Mobile scaffold should only be used on ground which is firm and level.
6) Ensure wheels are firmly fixed to the upright and that they can be locked.
7) More mobile scaffold by pushing at the base but NEVER should there be somebody on it. When moving mobile scaffolds look out for overhead obstructions, particularly over head electricity cables.

8) Never increase the height by working off a pair of step or ladder. This would raise the centre of gravity or apply a side load and the scaffold could topple.

FRAGILE ROOFS

When working on fragile roofs, proper support must be provided and used eg. Crawling boards properly constructed scaffolds.

OPENING IN WALKS, FLOORS AND ROOTS

Unfenced holes and opening are bad enough but a hole covered with fragile material is even worst. Holes and openings should either be covered with fixed strong material or properly secured barriers erected around them.

25.0 PAINTING

The majority of paints, coatings and thinners do not present special hazards in storage or use provided good standards of industrial hygiene are maintained. However, it must be remembered that these materials can introduce two potential hazards:

- Heat
- Fire

HEAT

Paints and thinners are mixture of various chemicals, some of which are potential health hazards if not used in accordance with safe working practice as follows:

INGESTION

The ingestion of paint should always be avoided !!

Food and drink should not be brought into, stored, prepared or consumed in areas where paints are stored or used. If paints or thinners are accidentally swallowed do **NOT** induce vomiting. Seek immediate medical advice!!

INHALATION

The inhalation of paint spray, dust or fumes is to be avoided by proper ventilation or extraction. If inhalation is unavoidable, then suitable, approved respirators or face masks are to be worn. Solvent vapors are heavier than air and therefore will accumulate in the bottom of tanks or confined spaces. Breathing apparatus must be worn under these conditions. If drunkenness, dizziness or headaches are experienced move into the open air immediately and do not return until the air is declared safe. When working in confined spaces with poor ventilation, such as tanks, an aired mask hood must be worn, man ways must be open and easily accessible for immediate evacuation and co-workers must be available to assist in case of problems.

SKIN CONTACT

Normally harmless chemicals can cause irritation through repeated or prolonged contact and in extreme cases there is a risk of dermatitis. To minimize skin contact with paints and thinners personnel must wear protective clothing: gloves, eye protection and overalls.

EYE PROTECTION

It is recommended that eye protector is worn when there is any risk of injuries to the eyes. Splashes of paint into eyes should be treated immediately by copious flushing with water for at least 10 minutes. It is advisable to seek immediate medical advice.

PERSONAL HYGIENE

Observe the highest standard of personal hygiene. In the event of clothing becoming soiled with paint, it should be changed and washed thoroughly with soap and water. Before eating any food wash hand and face.

FIRE

With the exception of water thinned and solvent free materials all paints contain organic solvents which are flammable to a greater or lesser degree and, therefore, precautions have to be taken in the storage and use of these materials. Refer to the section of FIRE PRECAUTIONS for further instructions. Main points to be observed are:

- Storage and usage should be in separate areas. The actual quantity stored in the working area must be kept to a minimum.
- Adequate ventilation must be provided in both the storage and working area.
- Fire prevention and fire fighting equipment must be provided and maintained.
- Do not attempt to fight fire resulting from paint and thinner with water. This will only spread the fire. Use dry chemical, foam or carbon dioxide.
- All possible sources of ignition must be strictly controlled e.g. electrical equipment, metal to metal sparks, etc.
- Welding and flame cutting should not be carried out close to painting area
- Smoking is not allowed in the storage or the working area.
- In the event of fire the possibility of poisonous fumes must always be recognized. If in doubt, use breathing apparatus.
- Spillages of paint are to be cleaned up as soon as they occur. Ventilate the area to remove fumes.
- The disposal of waste and empty containers must be undertaken in accordance with the relevant legislation.

CLEANING BEFORE PAINTING

When cleaning the steel before the application of the primer a lot of dust is freed and suspended in the air you breathe. This is especially the case when sand, grit or shot blasting is used to remove dirt, scale or rust from the steel and the following precautions must be taken if sand blasting is required:

- The area where the sand blasting takes place must be screened off from other working areas where practicable, to avoid dust and noise hazards.
- In our factory this is not always possible and therefore sand blasting is to be carried out outside normal working hours i.e. after 16.30 hrs during normal week days or during the weekends.
- Appropriate helmets, breathing apparatus, aprons, gloves, etc. must be worn by the blaster.
- Dust masks and ear plugs must be worn by the helpers supplying the sand, etc.
- Blasting is carried out under high pressure and therefore potentially dangerous. The supervisor and the operator have to make sure that there is nobody in the vicinity of the blasting nozzle during blasting operations.
- No unauthorized persons are allowed in the blasting area, which has to be clearly marked.
- Blasting equipment must be in good condition, whereby special attention is to be given to the hoses and hose connections. Nozzles must be suitable for the blasting medium to be used (sand, grit or shot).

26.0 SAFETY ON SITE

- A copy of the safety policy will be conspicuously displayed on every active site.
- Signs will be displayed at strategic locations to warn personnel not employed by PASSMAN OILFIELD OPERATIONS of the danger of entering site.
- A “NO RIDER” sign is to be displayed on all moving machinery
- A copy of the contingency plan will be held in the site office and personnel transportation vehicles.
- A site notice board is to be erected on each site showing the number of personnel on site and vital accident statistics.

- The construction site will be designated a “HARD HAT” and a “SAFETY SHOE” area.
- Where necessary (e.g. existing well heads) ”NO SMOKING” signs are to be erected and vehicle exhausts must be equipped with a spark arrestor.
- A vehicle for the transportation of staff to and from site will be made available and a schedule of the vehicle movement will be displayed at the pick-up point.
- A first aid box will be available at all times when work is carried out on the site.
- At least one staff on site must have training in the rendering of first aid in case of accidents.
- The services of a reputable clinic as close to the site as possible will be available for more serious mishaps and accidents.
- Fire extinguisher must be available from easily accessible and recognizable locations on the site.

27.0 ACCIDENTS REPORTING AND INVESTIGATION

Accidents cause suffering, pain, loss of income, waste of time, materials and damage to plants and equipment. It is our desire to aim at preventing accidents and no efforts are spared to achieve this. However, so far, man has not been able to completely eliminate accidents and we have to be prepared to deal with them and learn from them, if they do happen. It is, therefore, important that, whenever a mishap occurs, proper reporting and investigating procedures are followed to determine the cause of the accident and take appropriate measures to prevent a repeat.

- Every accident, even if there is no personal injury or material damage, must be reported.

- The cause of the accident must be established and removed if possible, to prevent a repetition. This should normally be done by the safety office together with the supervisor under whose supervision the mishap occurred.
- In case of a more serious accident, naturally, the management must be informed. Verbal and written reports are to be obtained from the staff involved and other witnesses, whenever possible. This is to be seen as a fact finding exercise: **it is not a witch hunt.** Obviously, the full co-operation of all the employees is essential and nobody should try to hide or distort the circumstances surrounding the accident. To eliminate the cause of the accident we must know the true facts!
- Based on the findings of the investigating panel measures will be adopted and implemented to prevent a recurrence.
- Government regulations stipulate that reports are submitted in case of accidents resulting in serious injuries or death, damage to public property or for insurance purposes (workmen's compensation, public liability, etc.)
- Statistical records are to be complied, which can be analyzed in various ways to assess the safety performance of the company.

28.0 GOOD HOUSEKEEPING

Housekeeping means the orderly arrangement and placement of equipment, tools materials (raw and finished products) and wastes. This implies that there is a place for everything and that everything is in its place. This not only leads to a more efficient working environment, but also reduces accidents, fire hazards and waste. The following will ensure good housekeeping:

- Floors are to be kept clean and free from substances, that can cause slips and falls, such as grease, oil, water, etc. Broken and uneven floors should be repaired.

- Gangways, steps, passages and doorways must be kept clear of obstructions and there must be free access to all parts of the work area. Also escape routes must be available from all parts of the work area.
- Materials and tools, (especially those frequently used) must be kept in designated places and in such a way that they cannot roll off and thus cause accidents.
- Soiled cleaning materials, scrap and waste oil should be kept in their appropriate (separate) receptacles for proper disposal. Cigarette ends or matches should not be thrown around the work place or into receptacles containing waste, oil, rags, etc. Areas with fire hazards are to be declared **"NO SMOKING"** areas.
- Flammable materials must be stored in safe places separate from non-flammable ones. Similarly, toxic/corrosive liquids or substances are to be kept in separate storage areas.
- Shelves and racks should be of sturdy construction and should not be over loaded to avoid collapses.
- Access to safety equipment, fire fighting equipment and first aid boxes must be free of obstructions at all times and must be clearly marked.
- The workshop must be cleaned daily and cleared of all scraps, wastes and dirt.
- Receptacles of waste and scraps, should be covered, especially if they constitute a fire or health hazard.
- Extension cables and flexible power leads for tools and equipment should be coiled and kept away from the work area and passages to avoid tripping over of staff.
- Absorbents are to be used to remove water, oil, grease, coolants, etc. from the floor whenever spillage has occurred.

29.0 COMPANY VEHICLES

- All vehicles must have valid statutory papers
- A driver must have a valid driving license for the vehicle he is driving.
- Drivers must not be under the influence of drugs or alcohol when driving.
- Drivers and (front seat) passengers must war seat belts.
- No conveyance of passengers is permitted in open trucks or machinery.
- Use vehicles only for the purpose they are designed for.
- Do not overload vehicles.
- All vehicles must carry.
    - Spare wheel
    - Fire Extinguisher
    - Jack
    - Triangular reflector
- Traffic rules must be adhered to!!

THE LEGAL SPEED LIMIT IN NIGERIA IS 100 KM/HR

Drivers must obey speed limits and drive even at slower speeds if driving conditions demand it. Adjust your speed to road conditions, weather, light, etc. Bumpy road, wet surfaces, etc. require slow driving; so does rainy or foggy weather.

- In case of a break down move the car off the road out of traffic stream and put your reflective danger tri-angle in position to warn other road users.
- For safety reasons the driver must ensure:
- That he is well rested before embarking on any journey.
- That on journey lasting more than one day he sleeps in a hotel or a guesthouse and **NOT** in the car.
- Tyres are always in good condition.
- That headlights, traffic indicators, brake lights are working properly.
- That the brakes (including hand brake) are in perfect working condition.

- That the steering is in perfect working condition.
- That the car suspension is in perfect order.
- That car doors closed properly and can be locked.
- For environmental reasons the driver must ensure that:
- There is no oil leakage, be it from the engine, gearbox or whatever.
- That the exhaust does not emit heavy (or not so heavy) clouds of smoke.

The driver of any vehicle must realize that he is **FULLY** responsible for the condition of the vehicle and the way he operates it. He has the right and the obligation to refuse to drive the vehicle, if the company refuses to carry out the necessary repairs to ensure that the vehicle is in a safe working condition.

30.0 BURNING

Acetylene and other fuel gases used for burning are highly flammable and form explosive mixtures with air and oxygen. Gas leaks are a source of fire risk and special care has to be taken when handling gas bottles:

- Gas cylinders are recognized by a colour code (oxygen: black acetylene: maroon) and should be stored apart.
- Handle and store gas cylinders with care.
- Ensure there are no gas leaks.
- Do not allow any flame near cylinder walls.
- Close the cylinder valve when not in use.
- Do not allow any arc welding to take place in the vicinity of the gas bottles.
- Cylinders must be used in an upright position and fastened to prevent them falling or being knocked over both when in use in the workshop and when in the store.
- Leaking gas bottles should be brought into the open away from electrical motors and other source of sparks or heat.

- In case of "backfire immediately close the cylinder valves, detach regulators and equipment from the cylinder and check hoses and blowpipe from damage before re use.
- When gas from the cylinder catches fire because of leakage at the connection immediately close the cylinder valve.
- If the cylinder becomes overheated or if fire prevents immediate closing of the valve, extinguish the fire using a Co2 fire extinguisher and then cool the cylinder by spraying it with water.
- Ensure that fire extinguishing equipment, including buckets filled with dry sand, is readily available and maintained in good conditions.

HOSES

- Use only pressure type rubber hoses in good condition and fitted with the proper connections.
- Do not allow hoses to kink or tangle and thus obstructing the gas flow.
- Keep hoses free from sharp edges, abrasive surfaces and hot metal to avoid damaging them.
- Do not allow traffic to pass over them.
- Never use copper pipes on acetylene hose connections.

WORK AREA

- The area must be free from fire risk.
- No combustible materials should be in the vicinity of the working area.
- The area must be kept clean from litter within 10 meters from burning operations.
- Ensure there is sufficient natural ventilation during burning operations.
- Ensure that the material being cut is adequately supported and that the discard cannot fall and cause injuries.

PROTECTIVE GEAR

- The eyes must be protected from the heat, glare and from particles of hot metal or scale. Therefore goggles with approved lenses **MUST** be worn. Goggles used for burning must not be used for Metal Arc Welding.
- Protective clothing should be free from oil, grease or flammable substances.
- Safety boots and leather gloves must be worn whenever burning operations are carried out.

31.0 FIRE SAFETY AND FIRE FIGHTING

GENERAL

Fire is without doubt one of the most potentially dangerous hazards in our operation and fire safety is therefore of utmost importance.

All fires start small and can be put out easily if:

- Detected at an early stage.
- fire fighting equipment are readily available
- The man on the spot knows what to do.

In principle, three element are required to produce fire:

Oxygen …… Fuel …… Heat

(COMBUSTIBLE TRAINGLE)

Without any one of these factors fire is impossible. The principle of fire prevention and fir fighting is to remove any one of these elements.

OXYGEN – Oxygen is present in the air (anything that burns) is found in three stages:

- Solid (wood, textiles, paper coal, etc.)
- Liquids (petrol, Kerosene, diesel, etc.)
- Gases (hydrogen, acetylene, carbon monoxide, butane, propane, etc.)

- **HEAT** (ignition source) can be generated in several ways and, in our operation, sources of ignition in fire hazards include the following:
- Sparks from mechanical sources (from impact or friction, steel tools, grinding, drilling, cutting, etc.)
- Electrical sparks and arcs (electrical motors and equipment, fault cables and insulation, overheating and break-downs through overloading)
- Hot surface (hot pipes, heaters, hot bearings)
- Hot flying particles (welding, cutting, burning, etc)
- Spontaneous combustion (paint-soaked cloth or rags)
- Open flames (naked lights, welding and cutting operations, burning matches, cigarettes, etc.)

CLASSIFICATION

THE CLASSIFICATION OF FIRES IS DETERMINED BY THE TYPE OF FUEL:

CLASS A

Fire involving solid minerals normally of an organic nature i.e. free burning materials, such as wood, paper, fibres, etc. The effective extinguishing medium is water in form of jet or spray.

CLASS B

Fires involving liquids or liquefiable solids. They can be divided into two main groups:

- Those that are miscible with water.
- Those that is not miscible with water.

The extinguishing agents include water spray, foam, vaporizing liquid, carbon dioxide (Co2) and dry chemical powder depending on the group.

CLASS C

Fires involving gases or liquefied gases like methane, propane, acetylene, butane, etc. Water in the form of a spray is generally used to cool the containers.

CLASS D

Fires involving metals. Extinguishing agents containing water are ineffective and in many cases even dangerous. Carbon dioxide, dry chemical powder and sand are normally suitable.

ELECTRICAL FIRES

Do not constitute a class; rather the materials associated with such a fire may be for class A,B,C or D. It is essential that in such a case the electrical current is removed before attacking the fire with the appropriate medium.

METHODS OF FIRE EXTINCTION

As stated earlier, the removal of any one of the three elements of the "combustible triangle" causes the combustion to cease. Therefore, the following three methods of fire extinction are generally used:

Cooling

This is reducing the temperature of the combustible material to fall below its ignition point. Cooling is the most effective method for most fires involving solids and in the majority of cases water is the best extinguishing medium.

SMOTHERING

This is done by excluding oxygen or reducing the oxygen percentage to an amount less than which will enable the fire to continue to burn and can be done in two ways:

- By applying a blanketing medium to exclude air (e.g. asbestos fire blanket of foam).

- By diluting the amount of oxygen present by introducing a gas which does not support fir e.g. carbon dioxide.

STARVATION

Removing the combustible material itself.

FIRE PREVENTION

The prevention measures suggested below must be generally followed:

- Do not smoke in the vicinity of highly flammable materials.
- Put out cigarette ends, cigar ends and pipe ashes before throwing them away.
- Do not use naked lights in places where flammable solids, liquids or gases are stored or handled.
- Keep the premises free of litter and rubbish. Place all waste in the appropriate receptacles and/or bins, which are to be emptied regularly.
- Use the greatest care when handling and storing petrol and other highly flammable substances.
- Keep all floors free from oil, grease, etc.
- Put all oily wastes, rags etc. into bins which are to be emptied regularly.
- Operations, which produce sparks, flames hot globules, molten slag or steel, etc. are to be carried out in areas free from flammable substances.
- Fire exits are to be clearly marked and free from obstructions.
- Everyone should be familiar with the distributions and operation of fire extinguishing equipment.
- Refer to the relevant chapters in this manual for fire prevention measures in respect of welding, burning and painting operations and the proper handling of gas (oxygen, acetylene, Co2, argon, etc.) bottles.

32.0 CONCLUDING REMARKS

As is evident from the previous sections there are a few basic principles, which are all important when designing safe working practices:

- Common sense
- Understanding of the work you are doing
- Understanding of the equipment you are using
- Understanding of the materials you are using
- Continuous awareness of potential dangers and hazards

The last point is perhaps the most important aspect of creating a safe working environment:

!! WE MUST ALWAYS BE AWARE OF THE POTENTIAL DANGERS!!

Because we are so very familiar with the equipment and materials we are working with, we tend to forget that these same materials and equipment become lethal weapons when they are used and handled without due care or with negligence.

Finally, it must be clearly understood that the safety measures as described in this manual are NOT designed to make life difficult for the staff or to deliberately slow down the painting and fabricating process. They are designed and introduced to ensure a healthy and safe working environment for each and every member of staff.

PASSMAN OILFIELD OPERATIONS RC-693857

Onshore & Offshore Corrosion Applicator | Internal Corrosion Monitoring | Earth Moving Equipment | Welding & Fabrication | Pipeline Networking | Corrosion Control | Parameter Fencing | Scaffold Erection | Dredging | Human Resources |

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D-U-N-S Number® Certificate

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East West Road, Opposite Bobby Filling Statio Emele Road, Port Harcourt,
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The rating is valid till 5th Sep, 2019

R Suryanarayan
General Manager Africa
Dun & Bradstreet South Asia Middle East Limited

September 6, 2018