

ANNEX 14: HSE PLAN



	SAFETY MANAGEMENT SYSTEM				
ENERGEAN I HSE PLAN					
Revision No / Date 01 / 01.2016	Prepared by HSE Manager	Reviewed by Drilling & Prod. Mng. Plant Manager	Approved by Technical Director	EOG-EF-SMS-HSE- 001	

HEALTH, SAFETY AND ENVIRONMENTAL PLAN

This HSE plan has been prepared by the HSE Manager, reviewed by the Drilling & Production Manager and Plant Manager and approved by the Technical Director.

It aims at ensuring the safety of the persons, the protection of the environment and of the facilities. It must be known and implemented by all those who are involved in this project.

- ISSUED To: Offshore Installation Manager (OIM, Rig) Offshore Operations Superintendent Onshore Operations Superintendent Mechanical Services Superintendent Electrical & Instrumentation Services Superintendent Departments Supervisors Safety Supervisor / Officer Barge Masters Tool-Pushers and Drillers Chief Mechanic and Chief Electrician Camp boss Contractors' Representatives
- Copy to: Technical Director Drilling & Production Manager Rig Manager Plant Manager HSE Manager Drilling Superintendent

This HSE plan aims at setting up the proper organization in order to observe the above principles and to reach our safety targets. This together with the safety efforts done on the hardware will help to achieve high safety performances. All personnel, employees and contractors, shall be fully aware of the following procedures and shall implement them accordingly during all phases of constructions, drilling and operations and generally during all company's activities.

		SAFETY MANA	GEMENT SYSTEN	A	
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1. THE ENERGEAN HSE PLAN WILL BE ANNUALLY REVISED.

2. HEALTH, SAFETY AND ENVIRONMENTAL POLICY STATEMENT.

It is the policy of Energean Oil & Gas and its Subsidiaries to conduct its activities in such a way as to:

- Consider first the health and safety of its employees, contractors, and third parties who may be affected.
- Protect the environment, prevent pollution, and seek improvements in the efficient use of natural resources.
- Ensure that health, safety, and environment (HSE) matters have priority among business objectives.

Energean Oil & Gas will carry out this policy through corporate action plans supported by management. We shall always require the commitment of each individual employee to achieve these objectives and we are committed to providing continuing education and training to achieve our goals.

All Energean managers and supervisors are accountable for the health and safety of those working under their control and are responsible for the promotion and implementation of Energean's local and corporate HSE policies, for development of job skills, and for promoting the Health, Safety and Environmental Protection.

Energean Oil & Gas HSE policies seek to incorporate guidance from the International Marine Contractors Association (IMCA), the International Association of Oil and Gas Producers and International Association of Drilling Contractors (IADC). Furthermore, the policies set out in this manual should be supplemented by applicable codes and standards recommended by industry classification societies, client safety policies, and sovereign laws. Generally, the most stringent standards shall be applied. Our goal is to eliminate accidents, injuries and job related illnesses.

Health

- Energean seeks to conduct its activities in such a way as to ensure the health of employees, contractors and third parties.
- Energean will continually update and implement the measures necessary to maintain good health of employees.
- Energean will treat employee medical conditions with the highest degree of confidentiality.

Safety

- Energean believes that all injuries are preventable and we actively promote high standards of safety consciousness.
- Energean is committed to maintaining safe working methods to reduce the risk of work related injuries. We are committed to providing high quality equipment, training, and personal protective equipment.
- Energean encourages employees to evaluate assigned tasks and to resolve problems in a productive and safe manner.
- Energean is committed to improving safety management skills of onshore personnel and personnel aboard offshore vessels and fixtures. Emergency plans shall be maintained for both safety and environmental protection.

Environment

Energean Oil & Gas will:

- Reduce emissions and discharges of waste which are known to have a negative impact on the environment.
- Promote procedures to ensure safe operations of vessels and to protect the environment in compliance with relevant international regulations.
- Provide products and services which will not cause injury to the environment.

Every Energean employee is responsible for the implementation and enforcement of this policy.

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3. SAFETY TARGETS:

The following safety targets are set up by the management of Energean for the whole personnel involved in the operation, including sub-contractors.

YEAR 2016 SAFETY TARGETS ZERO LOST TIME INJURIES

4. **RESPONSIBILITIES:**

President, Vice-President, Directors and Head of Departments have the overall responsibility for safety and thus provide resources and set-up this safety plan and the appropriate organization for its implementation. Managers, Superintendents and Supervisors are accountable for maintaining safe working conditions on the locations under their purview.

To achieve this goal they will in particular:

- Study and familiarize themselves with the regulations in force and the safety rules of Energean Oil & Gas
- Initiate the various actions for the implementation of HSE PLAN and ensure proper follow-up.
- Potential Contractor's representatives will report to Departments Superintendents and Managers who are responsible for the implementation of the HSE PLAN.

Departments' employees are responsible to Supervisors / Superintendents who are responsible to Dept's Managers. Rig's personnel are responsible to the OIM. They all must insure that:

- Safety regulations, standards and procedures are enforced.
- HSE PLAN is implemented.
- Accidents and near misses are reported and investigated promptly and thoroughly under their direction.
- Unsafe act auditing is correctly done.
- Induction training is provided to the new comers.

The Safety Supervisor / Officer is responsible to the HSE Manager and works as an advisor to the management of the plant and the rig and assists the OIM and the Superintendents in the implementation of the HSE PLAN. He participates in safety audits and in safety meetings. He assists the supervision of the plant and the rig for the onsite personnel safety training. He writes records of such trainings, audits, and meetings and communicates them to the concerned persons. He assists the Superintendents and the OIM for editing the access control cards and organizes induction courses for newcomers. He also assists for accident investigation, reporting and follow-up, issues the safety statistics through MSR (Monthly Safety Review) procedure.

ALL PERSONNEL are responsible through the normal chain of command for the **enforcement** of regulations, standards and procedures and for the **implementation** of the HSE plan.

In particular, each individual is responsible for enforcing the instructions given by billposting. Moreover it is a duty for all witnesses of any accidents, near misses and dangerous situations to report them to their supervisors, as this is necessary to prevent re-occurrence.

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5. REGULATIONS, STANDARDS, RULES AND PROCEDURES IN FORCE_

Several regulations and rules are issued by the various authorities. The management and the personnel involved are responsible to these authorities for their enforcement.

These regulations are kept on-site at the HSE Manager and OIM office where they may be read by anybody who asks for it.

a) NATIONAL LEGISLATION

- b) INTERNATIONAL REGULATIONS:
 - International convention for the safety of life at sea, SOLAS 92
 - International Maritime Organization, M.O.D.U. code 1989
 - International Maritime Organization, Noise Level on ships 1982
 - International Maritime Organization, Pollution Prevention 1983
 - International Association of Drilling Contractors, I.A.D.C. 1982
 - I.A.D.C., Accident Prevention Manual
 - Classification society Bureau Veritas
- c) Energean Oil & Gas GROUP RULES
- d) WELL PROGRAMS that contain instructions for drilling including safety principles and recommendations. The management of Energean issues them.

OPERATIONAL PROCEDURES: the procedures of the Energean group will apply. The safety reference documents of a potential client will apply too. Any conflicting instructions must be reported to the HSE Manager who will decide which one applies. The revision of a procedure may be proposed by anyone to the HSE Manager who will issue it. The revised procedure is approved and signed as for the original procedure and is communicated to employees during safety meetings and any other appropriate ways.

(Then the procedures have to be forwarded to the Head Office for record and a final approval).

Note: Emergency Shut Down procedures and safety checklists will come under this title.

SAFETY PRACTICES: they may be proposed by anyone to the Superintendents / OIM who will issue them. The relevant Manager signs them after reviewing by the HSE Manager. They are also issued and revised according to the results of the audits and the accidents and near misses investigations. All personnel are encouraged to propose new or revised safety practices.

6. ACCESS TO THE PLANT AND THE DRILLING LOCATION

Upon arrival at the plant and the rig site, all visitors and contractor workers will attend a safety induction meeting, will fill in a bio data medical form and will be taken to a safety tour of the rig.

An emergency evacuation plan is posted in all plant boards. Moreover a boarding card is posted in each barge room. This card details the safety instructions (alarms, escape routes and the location of the lifesaving equipment) directly related to the occupant of the room.

Among specific safety rules:

Smoking, pressurized gas cigarette lighters and matches are prohibited outside accommodations.

Smoking is also prohibited inside the accommodations except of specific rooms which are clearly marked. Portable telephones are prohibited outside accommodations.

All kind of fishing overboard is prohibited.

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7. TRAINING OF THE PERSONNEL

7.1. FORMAL TRAINING

Energean personnel will be trained on safety as follows:

Staff category	Training	Frequency
Drilling Supervisors	IWCF Level 4	2 years
Toolpushers	(Well control – BOP)	
OIM		
Drillers	IWCF Level 3	2 years
Assistant Drillers	(Well control – BOP)	
All personnel	Hydrogen Sulfide Awareness	Annually - Internal
	(incl. SCBAs & Resuscitators)	
	Basic First Aid	
	Basic Fire Fighting & Practice	
	Working at Height	
	Manual Handling	
	Prevention of Dropped	
	Equipment - Tools	
	No-Go & Red Zones –	
	Safe Areas	
	Induction Courses	When first coming aboard
Roustabout - Riggers	Lifting & Hoisting Awareness	Annually - Internal
	Slinging	
All Drilling Crew	Prevention of Dropped Equipment - Drilling	Annually - Internal
Safety Officers	Accident / Incident Investigation	3 years – Internal
Mudman	Control of Substances	3 years – Internal
Floorman	Hazardous to Health (COSHH)	-
Roustabout		
All personnel	Provision & Use of Work Equipment Regulations (PUWER)	3 years – Internal
Barge Master	HLO course	2 years

7.2. ON-SITE TRAINING will be given by Safety Officer for:

- Induction course for everybody coming on board;
- H2S safety training;
- Potential Dropped Object identification and prevention;
- Pinch point hazard identification and prevention;
- Other topics upon request by Chief Engineers for activities under their purview;

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8. EMERGENCY DRILLS

The aims of drills are:

- To test the operational functioning of all items of emergency equipment;
- To test and to train the reactions of the personnel and their ability to perform the emergency procedures;
- To anticipate possible failures in the systems and provide adequate back-ups.

The following drills must be carried out under the responsibility of the Operations Dept. Superintendents' and the OIM and all relevant employees and contractors shall regularly participate.

The Energean report form must be used.

The attendance of the Safety Officer is highly recommended.

The drills must be witnessed and analyzed by senior personnel, in order to draw all possible lessons.

Drill reports are reviewed during monthly safety committee.

Drills	Staff	Frequency
Fire:	Plant: actions according to Contingency Plan	Once per year
	Rig: All Personnel go to muster point with life jackets. Fire Fighting Team mobilizes.	Every two weeks, alternate with Abandon.
Abandon:	Plant: actions according to Contingency Plan	Two times per year
	Rig: All personnel go directly to lifeboats with life jackets.	Every two weeks, alternate with Fire Drill. Board lifeboats.
Gas:	Plant: actions according to Contingency Plan	Once per year
	Rig: All personnel carry escape masks and go directly to muster point and await instructions. Don masks if instructed.	Weekly or more often when gas zones are penetrated.
H2S:	Plant: actions according to Contingency Plan	Once per year
	All personnel carry escape masks and go directly to muster point and await instructions. Drill crew dons BA sets and secure well.	Weekly or more often before and during penetration of known or suspected H2S zones or when anticipated in program.
Man Overboard Rescue:	Rig: Lifeboat rescue crew.	Every 2 months, more frequently with crew change by crew boat.
Pit drill —signaled by driller.	Drill crew (for both crews)	Weekly.
Strip drill—signaled by driller.	Drill crew	Yearly
Breathing Apparatus: Scheduled by Supt. / OIM.	Drill Crew and all those likely to use.	Can be combined with Fire, or H2S drill but BA training done monthly.
Stretcher Drill with Casualty Handling: done with Fire Drill.	Medical Team: Medic w/ trained stretcher handlers.	Every 2 months.
Search and Rescue: done with Fire or H2S Drill.	Combined with Stretcher Drill and same team plus search crew.	Every 2 months.
First Aid Drill to test competency of First Aiders on all crews: rig personnel, catering.	Can be combined with Search and Rescue. First aider cares for casualty until Search Team arrives.	Every 2 months.
Medivac Injury - ambulance, helicopter, airplane, on alert. (Test of communications, mobilization.)	All crews and concerned parties	Every 6 months. Can be combined with a Search and Rescue Drill to include Casualty Handling.

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9. PERMIT TO WORK SYSTEM AND OBJECTIVES

Any non-routine job which requires special safety precautions and/or inter-departmental communications is subject to the Work Permit system. Overhauls, alterations, repair and maintenance of any kind for which electrical or pressure isolation is required should not be undertaken until the appropriate Work Permit or Permits have been obtained. Additionally all works undertaken by contractors (wireline, pu, ping jobs) are subject to Work Permits. Operations do not require Work Permit issuing.

All work permits must be documented with a Job Safety Analysis and a Tool box Risk Assessment Meeting (TRAC) should be held prior to the work.

9.1 THE OBJECTIVES OF THE WORK PERMIT SYSTEM ARE TO ENSURE:

- 1) The safety of the personnel involved in the job by ensuring that all necessary safety systems are in place, before, during and after the job is completed,
- 2) Efficient handover,
- 3) A proper coordination of the various jobs in progress on the site,
- 4) That all supervisors at the rig are informed of the job in progress in order to avoid conflicting, simultaneous operations.

9.2 WORK PERMIT

The following jobs require a work permit:

- 1) Hot Work (welding, cutting, grinding, high pressure water jets),
- 2) Working at Heights,
- 3) Entry into confined spaces (mud tanks, caissons, storage tanks, certain containers or chambers, etc.)
- 4) Work on pressure vessels and lines,
- 5) Electrical works,
- 6) Work on high-pressure vessels or lines requiring purging and isolation, otherwise known as Cold Work,
- 7) Any work in potentially explosive atmospheres requiring atmospheric checks for explosive gases,
- 8) Work overboard,
- 9) Work on high voltage switch boxes,
- 10) Use of radioactive material,
- 11) Non-routine work,
- 12) Transfer of offshore personnel by Basket.

9.3 WORK PERMIT PROCEDURES AND PRECAUTIONS

- 1. The work permits are issued on the form in the Control Room / OIM office,
- 2. A Job Safety Analysis is to be issued and discussed by the personnel involved in the job,
- 3. They must be re-issued at the beginning of every shift until the job is completed,
- 4. The work permit must be issued prior to commencing the job,
- 5. All permits are automatically canceled upon sounding the general alarm or the gas alarm,
- 6. All permits are automatically canceled upon absence of even one of the undersigned since Work Permits are strictly personal.
- 7. In addition to the precautions listed hereafter, it is the responsibility of the Operations Foreman / OIM to define any further measures that could be necessary,

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- 8. Copies of these procedures must be given to all Service Companies involved on site,
- 9. The permit is to be displayed in a designated place of public view and access.

9.4 HOT WORK PERMIT

- 1) Hot works include welding, flame cutting, grinding and other works producing heat or sparks which can be a source of ignition when these works take place in classified hazardous zones,
- 2) Precautions to be taken prior to start of work,
- 3) The atmosphere must be checked using an explosimeter. The percentage of Lower Explosive Limit (LEL) measured must be less that 1% for hot works and less than 10% for cold works,
- 4) The appropriate fire extinguishing systems must be available, checked and ready for immediate use,
- 5) Attendance of a fire-watcher is required if there is any possibility of fire spreading,
- 6) Appropriate grounding circuit must be set for arc welding.

9.5 WORKING AT HEIGHTS

- 1. According to Greek legislation, working at heights means working above 0.75 m (2.46 feet) from the ground or floor level without collective safety equipment such as handrails, ladder cages, or permanent anti-fall devices,
- 2. Personal protective equipment to be used such as safety harness (of approved type), anti fall device or shock absorber, approved safety line,
- 3. Barriers must be erected to keep personnel clear of area below the work.

A SENIOR STAFF PERSON WILL SUPERVISE THE WORKING AT HEIGHTS, EITHER FOR PERSONNEL OR IN PARTICULAR FOR EQUIPMENT WHEN AIR HOISTS ARE USED.

9.6 WORKS ON PRESSURE VESSELS AND CIRCUITS

This includes any work on vessels, lines, or controls used in the containment, transfer or control of pressurized fluids including air. These systems include:

- 1) Discharge circuits of the mud pumps.
- 2) Circuits connected to the BOP stack and to the choke manifold including flares, degassers, lines, etc.
- 3) Control lines and valves for the BOP.
- 4) Pulsation dampeners of the pumps.
- 5) Accumulators of the BOP control unit.
- 6) Air pressurized bulk tanks with associated lines.
- 7) Air cylinders and circuits (120 psi / 8.5 bar and above);
- 8) A permit is required for connecting or disconnecting any part of the circuits for which a tool is used such as wrench, hammer, cutting equipment (by mechanical or flame), welding (in which case a hot work permit will be required), etc. e.g.: - opening flanges; unscrewing piping, swages, valves or fittings including opening of mud pumps.
- 9) It is the responsibility of the Operations Superintendent / OIM to define the measures to take in order to isolate the relevant parts of the circuits from pressure (e.g. blind flanges, connections, locking switches etc.) and to place the appropriate warning signals as well as inform all department as per the work permit.
- 10) It is the responsibility of the chief Electrician to lock the safety switches of the pumps prior to starting the work.

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9.7 ENTRY INTO ENCLOSED / CONFINED SPACES

Enclosed spaces are: mud pits, tanks, chambers or vessels, in which the atmosphere could be flammable or toxic and/or which contain dangerous machinery or electrical hazards.

- 1) Prior to entering confined spaces the atmosphere must be checked by the responsible supervisor and the safety officer using an oxygen detector as per the work permit.
- 2) The percentage of oxygen measured must be 21%.
- In addition CO and CO2 and H2S content must be checked in tanks, especially when they have been closed for a long time. The atmosphere must be free of these and other toxic gases, which may affect health.
- 4) In certain circumstances breathing equipment may be necessary.
- 5) Before entering mud tanks, the power supply of the agitators must be cut off and the switch properly locked in the "off" position. The person doing the work inside the confined space will keep the key to guarantee his total safety.
- 6) Before entering confined spaces they must be depressurized and all pipeline connections must be isolated by blinding or disconnected.
- 7) Only the Chief Electrician is authorized to lock and unlock the switches, but the person in the confined space doing the work keeps the key in his possession during the work.
- 8) The Chief Electrician is responsible for checking that the isolation (lockout) procedure is properly done by activating the on/off switch located on the mixers prior to the entry of personnel.
- 9) Safety signs must be posted at the entrance to the mud tanks.

9.8 PROCEDURES FOR PROCESSING A WORK PERMIT

- 1. The Work Permit is obtained from the Operations Foreman / OIM and is completed by the senior supervisor responsible for performing the job.
- 2. A work permit must specify:
 - a) The exact location of the work,
 - b) Date,
 - c) Time of issue and expiration,
 - d) A brief description of the job
 - e) Any special safety precautions to be taken.
 - f) The Work Permit is completed and signed by the Operations Foreman / OIM.
- 3. The Work Permit is signed by the supervisor responsible for performing the job.
- 4. The original copy of the Work Permit remains in the Control Room / OIM's office posted on the Safety Board for all to see. The second copy remains with the supervisor performing the job. The third copy is posted at the work site.
- 5. Work Permits will not be issued in advance but only just prior to starting the job and at the job location.
- 6. As soon as the job is completed, the direct supervisor must physically check that work is performed satisfactorily, that the work site is safe and tidy.
- 7. The permit period of validity should not exceed the length of the work.
- 8. The permit is not transferred or handed over from one crew to another.
- 9. Permits are canceled when a general alarm (fire, gas, blowout, abandon, etc.) is sounded.
- 10. Welding and burning should not be allowed on any structural member of the plant / rig and classified steel e.g. hull members, derrick, well control equipment, high pressure systems, lifting equipment without the Technical Department's approval.
- 11. In the event that the hot work area is located in confined space, overboard, etc. an additional work permit be issued. See « confined spaces » and « working overboard » procedures.

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12. Emergency Procedures: each person in the work party is to be familiarized with the operation and location of all safety equipment provided in the hot work area (fire extinguishers, telephones and alarm buttons) and to be aware of all emergency procedures.

9.9 FIRE WATCHER DUTIES

- 1. The employee assigned should have no other duties while actual cutting or welding is being done.
- 2. Must be present and undistracted at all times with the welder (when specified in the permit) and be able to switch off the electric welding set, or shut off gas bottles in an emergency or in case of any alarm. Give hands-on training and verify that he is capable of shutting down the welding machine or closing the bottles. Verify by having him give a demonstration.
- 3. Must ensure that the work area and the adjacent areas are maintained in a safe orderly condition, i.e. sparks are not falling onto unprotected areas.
- 4. Particular care must be exercised if hot work (i.e. welding, burning, etc.) is being done on module walls, roofs, where heat/sparks/flame could penetrate into adjacent area.

9.10 WORK PERMIT General Considerations

- 1. The rig will use the company Work Permit system that is governed by the Work Permit Form.
- 2. The Work Permit system is not just another paperwork project. Rather it is a system that helps guarantee the following:
 - a) Relevant Safety Systems and Barriers in place to prevent injury, damage, or loss.
 - b) Communications between department heads, supervisors, and personnel to avoid conflicting simultaneous operations.
 - c) Proper closure of a project to reestablish normal operations after work is completed or ensure another Work Permit is issued at the beginning of the next hitch.
 - d) Responsibilities and Prerequisites for a Work Permit System. These are required to ensure the proper operation of a Work Permit System.
- 3. The Operations Superintendent / OIM is responsible for the implementation, operation and training of supervisors and personnel in the Work Permit system.
- 4. The Plant / Rig will have adequate stocks (pads) of Work Permit Forms. A Work Permit Form contains an original followed by 2 copies (Three sheets in all.)

A SAFETY BOARD IS REQUIRED IN THE CONTROL ROOM / OIM'S OFFICE TO DISPLAY THE ORIGINAL OF THE THREE SHEETS OF THE WORK PERMIT. THE ORIGINAL WILL BE DISPLAYED IN SUCH A WAY THAT ANYONE IN THE OFFICE WILL BE ABLE TO EASILY SEE THAT WORK REQUIRING A PERMIT IS IN PROGRESS.

9.11 GENERAL WORK PERMIT SAFETY REGULATIONS

- 1. All welding equipment must be shut off when not in use.
- 2. Keep accesses and escape routes clear.
- 3. Pressurized gas cigarette lighters and matches should not be carried by anyone welding or cutting.
- 4. Any potentially dangerous incident must be reported to the supervisor who shall inform the relevant Dept. Superintendent / OIM.
- 5. Never cut containers and drums.

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- 6. In hazardous areas, the atmosphere must be checked using an explosimeter. The percentage of Lower Explosive Limit measured must be less than 1% for hot works and less that 10% for cold works.
- 7. Particular attention must be taken when work takes place in classified hazardous zones.
- 8. Areas saturated with oil should be washed down and cleaned thoroughly to remove any ignitable substances. A gas test should be made if the presence of gas is suspected.
- 9. Ensure that drain systems in work areas are operationally safe, clear, covered and will not create a hazardous condition during hot work.
- 10. As required, a test for gas will be done before commencement of hot work and periodically as specified on the permit.
- 11. If continuous gas monitoring is required, then position a gas detector, with audible alarm, reasonably close to the work, on the upwind or positive ventilation side of the job.
- 12. In certain circumstances, it may be necessary to isolate fixed automatic detectors. In these cases, it is essential to ensure that full sensing coverage of the area is maintained, e.g. by having a fire-watcher and using portable gas detectors etc.

9.12 HOUSEKEEPING FOR WORK PERMIT OPERATIONS

- 1. Housekeeping is a foundation for quality, safety and efficiency work that personnel must be trained to perform and maintain.
- 2. Good housekeeping should be maintained around welding areas to control fire hazards and ensure the work is done safely.
- 3. Clean and organize the work area before commencing hot work.
- 4. Clean and organize the work area at the end of the job and before shift change.
- 5. Remove all flammable and combustible materials from the work area (this includes empty drums, pressurized containers and gas bottles not being used for job).
- 6. Gas bottles should not normally be inside enclosed spaces. They should be positioned outside and securely lashed in the upright position.
- 7. Where cables and hoses have to pass though doors, keep door opening to a minimum and ensure that door opening is maintained in such a way that there can be no damage to cables or hoses.
- 8. Use protective screens or safety barriers to protect others.

BEFORE ANY HOT WORK IS PERFORMED ON PIPELINES SYSTEMS, THE PIPE MUST BE CLEARLY MARKED BY THE DEPARTMENT SUPERVISOR.

9.13 FIRE PRECAUTIONS IN WORK PERMIT OPERATIONS

- 1. A fire hose, pressurized up to the nozzle, is to be laid out ready for use if required in the permit.
- 2. A spare fully charged and appropriate fire extinguisher, additional to those permanently installed, is to be positioned near to the hot work area.
- 3. The deluge system on drill floor must be pressurized at all times and capable of manual operation.
- 4. Ensure that wooden scaffold boards in hot work area are fire-resistant. Preferably use metal boards.
- 5. Position fire blankets below hot work area, to protect from sparks and welding scatter.
- 6. Blankets are to be kept wet with the water and must be clean and free from diesel/hydrocarbon spillage.
- 7. Construct screens around work area to contain sparks and welding scatter.

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9.14 PERSONAL PROTECTIVE EQUIPMENT IN WORK PERMIT OPERATIONS

- 1. When arc welding, the welder should use a shield or helmet (correct shade of filter) that will protect both the eyes and the skin.
 - a) Wear oil-free protective garments such as leather gloves, heavy shirt, cuff less trousers, and high shoes.
 - b) Safety goggles with side shields should be worn during the grinding operations.
 - c) Persons assisting welders should wear proper personal protective equipment.
 - d) Ventilation or proper respiratory protection should be utilized when cutting or welding which might produce harmful fumes.
- 2. Over water (approved work vest) or above deck levels (anti-fall devices).
 - a) Anti-falls system should be used.
 - b) See "working at heights" procedures.

9.15 JOB SAFETY ANALYSIS (JSA)

- 1. A JSA will be prepared for all tasks where there is a risk of injury to personnel or damage to property or the environment. JSA is a process where the hazards associated with each step of a job are identified and control measures are put in place to lower the risk to the personnel, property, or the environment. All work permits need to be documented with a JSA.
- 2. Information is recorded using the JSA worksheet. The worksheet includes the signatures of those that participated in the analysis.

10. SAFETY AUDITS & RISK ANALYSIS

10.1 RIG AND ACCOMMODATIONS SAFETY INSPECTIONS

Regular plant / rig safety inspections will be carried out using checklists following safety audit schedule. At minimum, **one** audit per **week** will be carried out.

Such inspections are carried out under the responsibility of the Plant Manager / OIM who may delegate parts of the inspection.

Checklists are available in the Group HSE manual.

These will be revised periodically as necessary under the direction of the Plant Manager / OIM in cooperation with the Safety Department.

10.2 RISK ANALYSIS

Each operation must be audited and analyzed to identify correctly the risks involved.

Audits will determine the risks and the likelihood of accidents based on those identified risks and potential for accident.

Risk analysis sheets must be used during job's preparation and pre-job meetings.

After a job is completed one full analysis must be performed to update the risk analysis sheet.

11. ACCIDENT AND NEAR MISS INVESTIGATION AND REPORTING

See group standard procedures for reporting accidents

All accidents and near misses must be reported to the Plant Manager / OIM and the HSE Manager.

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- The area Superintendent if they occur on the plant site,
- The Tool pusher if they occur on the rig site,
- The Camp boss if they occur at the camp site,
- Potential Contractor's supervisors for their own personnel.

Accident / Near Misses will be reported to Base immediately by phone and within 12hours of occurrence on the ACCIDENT / NEAR MISS / INCIDENT REPORT form Part A.

The reporting must be done first by the chief of the victim, and then analyzed and commented by the here above persons in charge who will give the report by hand to the dept. Superintendent / OIM together with their comments.

The Superintendent / OIM will forward the report and his own conclusions and action plan to the Plant CEO, Plant Manager /Drilling & Production Manager/Rig Manager, the Personnel dept., and the HSE Manager.

Accident investigation must take place as soon as possible after the accident and after the first report has been generated.

Further to the investigation the form Part B is issued showing follow-up, corrective measures, and improved safety systems for prevention as per standard reporting procedures.

The Plant Manager / Rig Manager will ensure that actions proposed in the accident reports and in the audit reports are completed. The situation will be reviewed during monthly safety committee meetings.

12. SAFETY MEETING ORGANIZATION

12.1 WEEKLY SAFETY MEETINGS

12.1.1 OBJECTIVES

Weekly safety meetings are held to:

- a) Seek ways of communication between staff and personnel.
- b) Eliminate unsafe practices.
- c) Train new personnel and familiarize them with the operations.
- d) Convey safety information to all employees:
 - Accidents reports
 - Safety alerts
 - New and revised procedures
 - General safety information
- e) Get participation in and commitment to the safety program.
- f) Resolve any concerns or problems that emerge.

12.1.2 PROCEDURES

- All personnel are to attend a Safety meeting once per week.
- In order to ensure continuity, Department Heads or their delegates should conduct Safety meetings.

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- Meetings will be held at the same time each week so that attendees are prepared.
- To be more effective not more than 20 people per group should participate in the meeting.
- The meeting will be more productive and motivating if a member of the work group is asked to lead the meeting.
- The meeting should last approximately 30 minutes.
- Items that cannot be resolved at the meeting and action items of general importance should be brought to the attention of the appropriate line manager.
- Only Safety matters are to be discussed not Welfare matters.
- The Minutes are to be taken at each meeting using the approved Energean standard form and to be handed over to the Safety Officer.
- In case of services provided to a Client, his representative has a permanent open invitation to any and all meetings whether the meeting concerns safety, operations or otherwise.

The Minutes include:

- A list of attendees;
- Subjects discussed;
- Actions arising and by whom; Attachments as required pertaining to any item discussed;
- Additional comments as may deemed necessary by the Rig Manager or the Safety Department;
- Conclusions and concerns must be acted upon;
- Copies of meetings must be available on the rig site;

12.1.3 TOPICS

The examples below are typical of suitable topics:

- Accidents and Incidents occurred at site or on other rigs;
- Company Safety procedures (New or revised);
- Emergency Procedures (New or revised);
- Hygiene;
- House Keeping;
- Employee safety suggestions;
- Safety alerts;
- Unsafe practices and good practices (observed on the site).

12.1.4 FOLLOW UP

- One copy of safety meeting report must be forwarded to the Plant / Rig Manager and the HSE Manager.
- The plant / rig should do actions not involving purchases of material or hiring of personnel and subjects will be clarified during the next meeting.
- The Plant / Rig / HSE Manager should cooperate and propose appropriate mitigation measures and actions to the Head office.
- The Plant / Rig / HSE Manager will require the support of the Head office if necessary.
- The Plant / Rig / HSE Manager will inform the Depts Superintendents, OIM and the potential Contractors Representatives about the management's decisions and actions.

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12.2 MONTHLY MEETINGS

12.2.1 OBJECTIVES

Monthly safety meetings are held to get together the Plant Manager, the HSE Manager, the Depts Superintendents, the Safety Foreman regarding the Plant and the Drilling & Production Manager, Rig Manager, the OIM, the Toolpushers, the Camp Boss, the Safety Officer, all Supervisors regarding the Rig and potential contractor's representatives as other persons concerned with the following objectives:

- a) Review all weekly safety subjects, which have been discussed during the month, and to take decisions concerning items that cannot be dealt with on the Rig site.
- b) Communicate safety information coming from the head office and other sources.
- c) Analyze all accidents and incidents, which happened during the month and set up appropriate prevention for the future.
- d) Monitor the progress of actions planned during the previous meetings.

12.2.2 PROCEDURES

- a) The monthly safety meeting shall be conducted by the Plant Manager / Drilling & Production Manager.
- b) Items that cannot be resolved at the meeting and actions of general importance must be brought to the attention of the Head Office.
- c) The minutes shall be recorded in triplicate; the original shall be forwarded to the HSE Manager, the first copy to be forwarded to the Plant / Drilling & Production Manager and the second copy to be filed at site for reference purposes and inspection.

12.3 SCHEDULE FOR SAFETY MEETINGS

Staff category	Meeting	Frequency
Plant Manager, HSE Manager, Depts Superintendents, Safety Foreman, Contractors Representatives	SAFETY COMMITTEE	Monthly
Plant Safety Officer, Depts Superintendents / Supervisors, Employees	SAFETY ISSUES	Weekly
Drilling & Production Manager, Rig Manager, OIM, Safety Officer, Tool Pusher, Barge Master, Chief Electrician, Chief Mechanic, Contractors Representatives	SAFETY COMMITTEE	Monthly
OIM, Safety Officer, Personnel Representatives	Health, Safety and Welfare Committee	2 Weeks
OIM, Safety Officer, Senior Tool Pusher, Chief Electrician, Chief Mechanic, Medic, Camp Boss, Contractors Representatives	HEAD OF DEPARTMENT	Weekly
Drilling Crews	SAFETY MEETING	Weekly
Chief Mechanic, Chief Electrician, Electrician, Mechanic, Oiler & Others	SAFETY MEETING	Weekly
Deck Foreman, Crane Operator, Roustabouts.	SAFETY MEETING	Weekly
Camp Boss, catering crews	SAFETY MEETING	Weekly

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Subcontractors cr	ews		SAFETY MEETING	Weekly	

Safety Officer to attend all meetings

12.4 PRE-JOB MEETINGS

12.4.1 OBJECTIVES

Pre-job meetings are held with a view to:

- a) Ensure adequate coordination between the various companies or crews present on site.
- b) Prepare the personnel to new or non-routine operations.
- c) Review all essential safety systems and provisions required for the job.
- d) Promote teamwork, interaction and communication among the crewmen performing the job.

12.4.2 PROCEDURES

- a) Pre-job meetings are held prior to start any new or special operations such as rig moving, running casing, cementing, well testing, Sub sea & Bop's handling, logging, coring, etc.
- b) The First Line Supervisor (Depts Supervisors / Foremen, Tool Pusher, Driller, Barge Engineer, Mechanic, etc.) will chair (lead) the pre-job meeting.
- c) The First Line Supervisor might eventually delegate leadership of the meeting to a crew member but he will oversee the proceedings and ensure guidance and direction.
- d) There is no specific duration for the pre job meetings.
- e) The agenda must be prepared so that all attendees will receive clear instructions and have time to ask questions and make suggestions.
- f) Minutes must be taken and filed for future reference.

All the personnel involved in the operation must attend the pre job meeting.

12.5 – HEALTH, SAFETY AND WELFARE COMMITTEE MEETING

12.5.1 - OBJECTIVES

- a) Promote the safety health and welfare of Energean personnel.
- b) Provides feedback on actions arising from the Safety Committee meetings.
- c) Consults and reports to the HSE Manager / OIM on all matters relating to the health, safety or welfare of the persons in the workplace.
- d) Facilitates consultation and cooperation in initiating, developing and implementing measures designed to ensure the health, safety and welfare of employees.

12.5.2 PROCEDURES

- a) Committee meetings are held every 2 weeks before representative's crew change.
- b) The minutes shall be recorded in 4 copies. The original forwarded to the base, first copy filed in the personnel representatives log book, second copy in HSE Manager / OIM office and third copy posted to the notice board in the crew recreation room.

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13. ENVIRONMENTAL POLICY

13.1 STATEMENT

The management is committed to the preservation of the environment and will maintain a consistent policy to conduct the operations with a responsible behavior.

The company will strictly comply with International standards so that the environment of drilling locations, roads used by the company transport and surroundings remain protected and unspoiled. On environmental policy, we shall continue to endeavor to:

- Promote housekeeping as a priority. By continuous effort, maintain accommodations and work areas clean and tidy.
- Consider the environment protection as a decision.
- Comply fully with relevant environmental laws and regulations as well as internal policy.
- Evaluate the results of the past activity and prepare detailed programs for the next operations.
- Keep good relationships with local population in order to assess immediately damage, to mitigate it and to compensate when justified according to the current local practices.
- Consider the cleanup of the worksite as a part of the job whatever its nature (maintenance, construction, etc.).
- Use chemicals with care promoting satisfactory handling, storage & disposal practices, and keeping outlet concentrations at an environmentally acceptable level.
- Minimize generation of hazardous wastes and dispose them through the best, financially acceptable practices.
- Prevent oil spills occurrence by regularly auditing the installations.
- Maintain a specialized equipment stock, train an oil spill team and regularly test the action procedures when abnormal levels observed.
- Monitor accurately effluents discharges and implement corrective measures when abnormal levels observed.
- Cooperate with Government for evaluating consequences of environmental laws at both field and company's levels.
- Inform Company's employees on this policy and more generally on environmental good practices. Educating the employees and monitoring, to desist from pollution of the environment.
- Monitor public attitudes on environmental matters in order to adapt this policy and other Company's statements to those attitudes.
- Lay down conditions to contractors and carry out checks on their implementation, on the measures taken in order to protect the environment.

13.2 TASKS

13.2.1 INFORMATION DUTIES

a) Information in case of spill

In case of oil spill, it is a MUST to advise the Plant Manager / OIM who will forward to the base and the HSE Manager all available information on the spill (causes, times, nature, extent...).

It is an offense against the laws to try to dissimulate an oil spill caused by our self or to not report an oil spill caused by others.

b) Information on chemicals

In line with the general effort to reduce pollution by chemicals, it is requested to maintain on site a list of the chemicals to be used as well as the corresponding Safety Environment Data Sheets.

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13.2.2 OIL SPILL

To report oil spills is a major duty of the OIM / Offshore Operations Superintendent whatever the size and the case.

13.2.3 OTHER OIL DISCHARGES

Main sources of other oil discharges are:

- Process discharges
- Logistic discharges
- Maintenance discharges
- a) Process discharges

This concerns mainly fluids directed to the barge tanks and which are finally transferred to the onshore facilities for further management.

b) Logistics discharges:

This concerns mainly:

. Transportation by boat

. Handling and storage of lube oil

For the rig, the policy is to minimize all discharges by way of proper engine adjustment, refueling procedure.

Control must be achieved and ship must be stopped because of abnormal pollution.

Handling and storage of lube oil will be achieved in order to prevent leaks.

If leak detected, the content will be immediately re transferred to new containers.

c) Maintenance discharges

The main point of concern is waste oil. Maintenance of engines must be done at a suitable location, in order to recover the waste oil, when replaced. The waste oil must be transferred to the waste oil container for disposal ashore.

13.2.4 CHEMICAL AND LUBRICANTS

In line with the general effort launched to minimize the impact on the environment, it is requested to pay attention to:

- Handling and storage conditions
- Proper use
- Proper disposal of expired product, if any, for all chemicals under his responsibility
- Proper disposal of spill residues and lubricant wastes.

a) Handling and storage conditions:

The general rules of handling and storage have to be used. Suitable containers must be provided, according to transportation and storage conditions. Proper labeling will be clearly painted on top and on side of the container.

To face a possible case of leak, empty drums are kept.

b) Proper use:

Use of chemicals will be allowed only if justified either by experience or by test. Priority will be given to low toxicity products.

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The supplier is obliged to submit a material safety/environment data sheet giving the same information systematically. Failure to do so especially in the case of toxic product being used would be considered as a breach of contract.

The data sheet should contain general data concerning physical-chemical characteristics of the products including the information necessary for the proper handling, storage and elimination of the product.

These data sheet must be filed in HSE Manager / OIM office, Hospital and in sack room.

All personnel who mix or handle chemicals must know the data sheets contain.

Uses of toxic chemicals without previous information are generally considered as a case of breach of contract.

c) Disposal of expired product:

It is our duty to properly dispose the chemicals whose quality is no more sufficient for application. Disposal procedures can be obtained from manufactures.

Unless duly approved it is strictly forbidden to dispose chemicals at sea.

d) Records will be kept in order to achieve a proper management of chemicals:

- Available
- Consumption of chemicals, including lubricants.
- Disposal

As a general rule, the generation of wastes, particularly hazardous wastes, must be minimized. Once generated, a suitable disposal procedure has to be applied. All waste generated by the rig must be recorded.

- a) For storing separately the metallic scrap, empty basket for site storage will be provided. When full, the basket will be transferred to shore for disposal.
- b) Disposable wastes:

Disposable wastes are considered as food produces, which are biodegradable. They may be thrown to the sea.

c) Other solid wastes: According to site, the remaining solid, non-burnable wastes will be disposed ashore.

13.2.5 DOMESTIC WASTES AND WATERS

The rig and the platforms are fitted with waste(s) sewage pit(s) in which all waster waters are dumped.

13.2.6 BURNABLE WASTES

- 1. Operational by-products such as paper, cloth, or other non-toxic-residue combustibles will be incinerated.
- 2. Non-burnable wastes will be disposed of at the appropriate and separated disposal baskets. When full, these baskets will be transferred to shore for disposal.

13.2.7 ATMOSPHERIC POLLUTION AND NOISE

Engines of the rig and mobile equipment (pumps, compressors etc.) must be fitted with exhaust silencers. Above **85 dB** (A) personal protective equipment must be provided (ear plugs etc.) and used. Horns and alarms devices must not create inconvenience for the environment. They will be of a low sound level or be replaced by visual systems.

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14. LIFTING EQUIPMENT

The following applies to the rigs, warehouses and yards.

The standard lifting procedure of Energean will provide guidance to solve any problem related to lifting equipment inspection and use.

In addition the following rules apply:

Three types of lifting equipment are defined:

- a) Major equipment such as mast draw works etc. for which API std RP apply.
- b) Other equipment such as forklifts, air hoists, cranes, chain blocks etc. which will be identified and number coded on a register. The supplier or manufacturer will certify this equipment for conformity and they should be inspected according to Legislation. Cranes will be tested prior to be used, inspected every 12 months and tested with load every 48 months by a competent third party. Forklifts, air hoists etc. will be inspected every 30 months and load tested every 60 months.
- c) Loose lifting gear such as slings, shackles, hooks etc. which will be identified by:
 - a code letter identifying the rig
 - a code number which will refer to the purchase order number.

Potential contractors must set-up comparable organization for their own warehouse and yards. Cranes will be inspected every 12 months.

A color code will be used to control the inspection system.

15. RULES FOR HANDLING CHEMICALS

It is the responsibility of the persons who order chemicals to make sure that the suppliers of chemicals provide material safety data sheets.

These safety data sheets will be filed at the HSE Manager / OIM's office, at the clinic and in sack room.

All personnel who mix or handle chemicals must know the data sheets contain.

This applies for mud chemicals as for other agents like acids, lubricants, and additives used the various services.

The Dept. Superintendent / Toolpusher will be responsible for communicating safety information from the data sheets to his Foreman / Driller, in particular:

- First aid advice;
- Personal protective equipment to be used;
- Safe handling precautions;
- Procedure for cleaning and disposal of spillage;
- Washing hands after handling chemicals;
- Food forbidden near chemicals storage or use.

Such data sheets must clearly state about:

- Hazardous properties, flammability, toxicity, corrosiveness,
- Reactivity with other chemicals,
- Storage conditions temperature, materials, warning notices to be displayed on tanks or on containers,
- Handling, protective clothing and equipment required,
- First aid treatment required in case of splashes on skin, eyes, inhalation of fumes, ingestion, contamination of clothing,
- Personnel hygiene standard,
- Action to be taken in case of spillage,
- Method of disposal of empty containers,

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All chemicals must be labeled.

The hazardous mud chemicals (e.g. caustic soda) will be stored separately from the others and the storage area will be marked with warning signs.

16. PERSONNEL PROTECTIVE EQUIPMENT

Personnel protective equipment PPE are provided by the company and shall be used by all personnel.

16.1 COVERALLS

All Company personnel working on a rig, platforms, onshore plant, yard, workshop or warehouse shall wear Energean coveralls.

Long sleeve coveralls are recommended for all personnel.

16.2 SAFETY GLASSES

Safety Glasses will be always worn outside the accommodations.

16.3 HAND PROTECTION

Shall be worn as appropriate from the personnel. Appropriate gloves shall be worn when handling hot pieces of equipment. Leather welder gloves shall be used when cutting welding or heating. Dielectric gloves shall be available for the Electrician and stored in switch gear room.

16.4 HEAD PROTECTION

Protective headgear shall be worn by all personnel at all times in the specified areas. Safety hard hats must be a type approved, not made of non-inflammable, non conduction material. Employees must not paint in otherwise modify their hard hats.

16.5 HEARING PROTECTION

Shall be worn by all personnel in excessively noisy areas, such as near large machinery particularly in enclosed areas.

Only approved protective plugs, earmuffs or noise absorbing equipment must be used.

16.6 SAFETY SHOES

Compulsory in specified area and outside accommodations, safety shoes shall be ordered as per Energean Oil & Gas Standard.

Neoprene Safety boots shall be worn for chemical protection or aggressive mud.

16.7 SAFETY HARNESS

Shall be worn at all time by personnel working while exposed to a fall of 0.75 meters (ref. notice Anti-fall devices).

Any person entering a confined space where deficiency of oxygen is, or which contains toxic, or noxious gases, must be fitted with a safety belt and lifeline, in addition to breathing apparatus.

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17. PERSONAL HEALTH

One of the main concerns of Energean is to create a healthy environment for all personnel working within the company by mitigating health risks to them and thus help them maximize their productivity.

All Energean personnel's health is regularly monitored and personal records are filed in the company's medical room.

An annual health program is implemented to all employees including microbiological examinations, radiographic examinations, eye examinations and hearing examinations. Moreover the company doctor provides lung and heard examinations.

All examinations are assessed by the company doctor and further examinations are followed in case of need.

18. MEDICAL EVACUATION

The Emergency Response Plan (ERP) for Energean contains the full Medical Evacuation response. This document is in HSE Manager / OIM office and Radio room and can be consulted any time.