HEALTH SAFETY & ENVIRONMENT

HSE DUE DILIGENCE REPORT

APPENDICES

Date: 01.08.2016

Revision:

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Appendix 1: HSE & SOCIAL RESPONSIBILITY POLICY

HSE & Social Responsibility Policy

It is the policy of Energean to develop and conduct its business with regard to Health, Safety, Environment ("HSE") and Social Responsibility matters by ensuring the following:

- Provide Safe and Healthy working conditions for all employees and contractors
- Maintain a system for safe and pollution free operating practices, for the protection of the environment from all forms of pollution and continuously improve the Company's performance to achieve this aim.
- Comply with International HSE Regulations and Requirements
- Conduct business within the Law and the prevailing Business Ethics
- Continuously improve the Company's Services, its reputation and its employment potential
- Demonstrate Business Social Responsibility
- Cooperate with the Local Community
- Personnel that has the required skills and experience has been employed and is continuously trained and familiarised with all field developments
- All necessary resources are being provided and Authority and Responsibilities are clearly assigned
- Safeguards against identified risks have been established and risk is managed to a level of "As Low As Reasonably Practical" (ALARP)
- Safety Procedures have been established to clearly ensure that no work is conducted without pre-job Risk Assessments and any unsafe work is stopped immediately
- Emergency Procedures have been established to respond to Emergency situations and are tested regularly for their effectiveness
- All business is conducted taking into consideration the efficient use and conservation of energy and resources, and minimization of waste
- Any waste is disposed-off in a safe and responsible manner
- All contractors employed are aware of the Company's HSE Policy, are expected to strictly follow it and are continuously monitored to ensure the compliance
- Internal Inspections are carried out and corrective action is taken to rectify any identified non conformities

Mathios Rigas

Chairman & CEO

Appendix 2: HSE PLAN

HEALTH SAFETY & ENVIRONMENT

HSE PLAN

Date: 27.07.2016

Revision: 02

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1. INTRODUCTION

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
Drilling & Production Superintendent
Mechanical Services Superintendent
Electrical & Instrumentation Services Superintendent
Departments Supervisors
Safety Engineers / Supervisor / Officers
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.

2. ISSUING & REVISION OF THE PLAN

The HSE Plan has been issued by the Group HSE Manager, reviewed by the Drilling & Production Manager and the Plant Manager and approved by the Technical Director.

It is revised on an annual base or whenever it deems necessary.

3. SCOPE OF THE HSE PLAN

The scope of the plan is to provide all necessary guidance to assure safety of personnel and protection of the environment and the facilities.

Energean' s and subsidiaries' policy is to contact works in a way that:

- Considers first the health and safety of its employees, contractors, and third parties who may be affected.
- Protects the environment, prevent pollution, and seek improvements in the efficient use of natural resources.
- Ensures 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.

4. HSE TARGETS

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

ZERO LOST TIME INJURIES
ZERO ENVIRONMENTAL POLLUTION
ZERO DAMAGES TO THE FACILITIES

5. RESPONSIBILITIES

The Company Management has the overall responsibility for safety and thus provides 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 Engineer / 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.

6. REGULATIONS, STANDARDS, RULES AND PROCEDURES IN FORCE

National & International 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.

7. 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. For reaching the rig all above have to provide a valid medical fitness certificate.
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.
Clean shaven policy is applied to all employees and visitors.
All kind of fishing overboard is prohibited.

8. TRAINING OF THE PERSONNEL

8.1. FORMAL TRAINING

Energean personnel will be trained on safety as follows:

Staff category	Training	Frequency
Drilling Supervisors Toolpushers OIM	**IWCF Level 4** **(Well control – BOP)**	**2 years**
Drillers Assistant Drillers	**IWCF Level 3** **(Well control – BOP)**	**2 years**
All personnel	**Hydrogen Sulfide Awareness** **(incl. SCBAs & Resuscitators)**	**Annually – On site**
	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 - On site**

	Slinging	
All Drilling Crew	**Prevention of Dropped Equipment - Drilling**	**Annually - On site**
Safety Officers	**Accident / Incident Investigation**	**3 years – On site**
Mudman Floorman Roustabout	**Control of Substances Hazardous to Health (COSHH)**	**3 years – On site**
Barge Master	**HLO course**	**2 years**

8.2. 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;

9. 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	Onshore: All personnel go to muster point. Firefighting team mobilizes.	Once per year
	Offshore / Rig: All Personnel go to muster point with life jackets. Firefighting Team mobilizes.	Every two weeks, alternate with Abandon.
Abandon	Onshore: All emergency team personnel go directly to their Group Center, all others out of the plant.	Two times per year
	Offshore / Rig: All personnel go directly to lifeboats with life jackets.	Every two weeks, alternate with Fire Drill. Board lifeboats.

Gas – H_2S	Onshore: All emergency team personnel carry their masks and go directly to their Group Center, all others out of the plant	Once per year
	Offshore / 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.
Man Overboard Rescue	Offshore / 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 during drilling.
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 H_2S 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 H_2S 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.	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.

10. 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.

10.1 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.

10.2 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.

10.3 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,
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.

10.4 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.

10.5 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.

10.6 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 departments 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.

10.7 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%.
3. 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.

10.8 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.
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.

10.9 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.

10.10 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.

10.11 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.
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.

10.12 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.

10.13 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.

10.14 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.

10.15 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.

11. SAFETY AUDITS & RISK ANALYSIS

10.1 PLANT AND RIG 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.

12. ACCIDENT AND NEAR MISS INVESTIGATION AND REPORTING

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

- 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.

13. SAFETY MEETING ORGANIZATION

13.1 WEEKLY SAFETY MEETINGS

13.1.1 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.

13.1.2 PROCEDURES

a. All personnel are to attend a Safety meeting once per week.
b. In order to ensure continuity, Department Heads or their delegates should conduct Safety meetings.
c. Meetings will be held at the same time each week so that attendees are prepared.
d. To be more effective not more than 20 people per group should participate in the meeting.
e. The meeting will be more productive and motivating if a member of the work group is asked to lead the meeting.
f. The meeting should last approximately 30 minutes.
g. 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.
h. Only Safety matters are to be discussed not Welfare matters.
i. The Minutes are to be taken at each meeting using the approved Energean standard form and to be handed over to the Safety Officer.
j. 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;

13.1.3 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).

13.1.4 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.

13.2 MONTHLY MEETINGS

13.2.1 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.

13.2.2 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.

13.3 SCHEDULES FOR SAFETY MEETINGS

Staff category	Meeting	Frequency
Plant Manager, Drilling & Production Manager, HSE Manager, Depts Superintendents, Safety Engineer, Environmental Engineer, Employees H&S Committee	GENERAL HSE ISSUES	Biannual
Plant Manager, HSE Manager, Depts Superintendents, Safety Engineer, Environmental Engineer, Contractors Representatives	PLANT HSE ISSUES	Monthly
Drilling & Production Manager , Rig Manager, OIM, Safety Officer, Tool Pusher, Barge Master, Rig Chief Electrician, Rig Chief Mechanic, Contractors Representatives	RIG HSE ISSUES	Monthly
Safety Officers, Depts Superintendents / Supervisors, Employees	PLANT HSE ISSUES	Weekly
OIM, Safety Officer, Senior Tool Pusher, Chief Electrician, Chief Mechanic, Medic, Camp Boss, Contractors Representatives	GENERAL RIG HSE ISSUES	Weekly
Drilling Rig Crews	RIG HSE ISSUES	Weekly
Subcontractors crews	SAFETY MEETING	Weekly
Safety Officer to attend all meetings		

13.4 PRE-JOB MEETINGS

13.4.1 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.

13.4.2 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.

13.5 HEALTH, SAFETY AND WELFARE COMMITTEE MEETING

13.5.1 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.

13.5.2 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.

14. ENVIRONMENTAL POLICY

14.1 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.

14.2 TASKS

14.2.1 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.

14.2.2 OIL SPILL

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

14.2.3 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.

14.2.4 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.
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.

14.2.5 DOMESTIC WASTES AND WATERS

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

14.2.6 ATMOSPHERIC POLLUTION AND NOISE

Engines of the rig and mobile equipment (pumps, compressors etc.) must be fitted with exhaust silencers.
Above 85 dBA 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 ALARP or be replaced by visual systems.

15. LIFTING EQUIPMENT

The Energean Procedure for Lifting Equipment Examination and Certification 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 color coded.

Potential contractors must set-up comparable organization for their own warehouse and yards.

16. 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,

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.

17. PERSONNEL PROTECTIVE EQUIPMENT

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

17.1 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.

17.2 SAFETY GLASSES

Safety Glasses will be always worn outside the accommodations.

17.3 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.

17.4 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.

17.5 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.

17.6 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.

17.7 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.

18. 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.

19. 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.

Appendix 3: RISK MANAGEMENT PLAN

HEALTH SAFETY & ENVIRONMENT

RISK MANAGEMENT PLAN

ENERGEAN
OIL & GAS

Date: 12.01.2016

Revision: 02

Table of Contents

1. Executive Summary

Risk is defined as an event that has a probability of occurring, and could have either a positive or negative impact to a project should that risk occur. A risk may have one or more causes and, if it occurs, one or more impacts. For example, a cause may be requiring an environmental permit to do work, or having limited personnel assigned to design the project. The risk event is that the permitting agency may take longer than planned to issue a permit, or the assigned personnel available and assigned may not be adequate for the activity. If either of these uncertain events occurs, there may be an impact on the project cost, schedule or performance. All projects assume some element of risk, and it's through risk management where tools and techniques are applied to monitor and track those events that have the potential to impact the outcome of a project.

Risk management is an ongoing process that continues through the life of a project. It includes processes for hazards identification and reporting, risk management planning, identification, analysis, monitoring and control. Many of these processes are updated throughout the project lifecycle as new risks can be identified at any time. It's the objective of risk management to decrease the probability and impact of events adverse to the project. On the other hand, any event that could have a positive impact should be exploited.

The identification of hazard normally starts before the project is initiated, and the number of hazards increase as the project matures through the lifecycle. When a hazard is identified, it's first assessed to ascertain the probability of occurring, the degree of impact to the schedule, scope, cost, and quality, and then prioritized. Risk events may impact only one or while others may impact the project in multiple impact categories. The probability of occurrence, number of categories impacted and the degree (high, medium, low) to which they impact the project will be the basis for assigning the risk priority. All identifiable risks should be entered into a risk register, and documented as a risk statement.

As part of documenting a risk, two other important items need to be addressed.
The first is mitigation steps that can be taken to lessen the probability of the event occurring. The second is a contingency plan, or a series of activities that should take place either prior to, or when the event occurs. Mitigation actions frequently have a cost. Sometimes the cost of mitigating the risk can exceed the cost of assuming the risk and incurring the consequences. It is important to evaluate the probability and impact of each risk against the mitigation strategy cost before deciding to implement a contingency plan. Contingency plans implemented prior to the risk occurring are pre-emptive actions intended to reduce the impact or remove the risk in its entirety. Contingency plans implemented after a risk occurs can usually only lessen the impact.

Identifying and documenting events that pose a risk to the outcome of a project is just the first step. It is equally important to monitor all risks on a scheduled basis by a risk management team, and reported on in the project status report.

1.1. Purpose

This plan documents the processes, tools and procedures that will be used to manage and control those events that could have a negative impact on the project and thus to ensure compliance with Energean's HSE & Social Responsibility Policy. It's the controlling document for managing and controlling all project risks. This plan will address:

- Hazards Identification
- Risk Assessment
- Risk Mitigation
- Risk Contingency Planning
- Risk Tracking and Reporting

Appendix A will present the risk impact assessment matrix and appendix B will present a sample of the risk register.

2. Risk Management Strategy

2.1. Hazard Identification

The first stage in determining risk is a systematic identification of hazards. It is hazards that are uncontrolled which result in events, which can then escalate, that create risk.
A hazard is any source of potential damage, harm or adverse health effects on something or someone under certain conditions at work. A hazard can cause harm or adverse effects to individuals, as health effects or to organizations, as property or equipment losses.
Hazard identification is a formal process used to identify all the possible situations in the workplace where people may be exposed to injury, illness or disease, environment may be polluted or assets may be destroyed. Hazards are also identified from accident / incidents reports and investigation, statistics, inspections and safety surveys. In any case mitigation measures are taken, as described below.
Hazard analysis may include the following methodologies:

- WHAT – IF Checklist: The what – if checklist is a broadly-based hazard assessment technique that combines the creative thinking of a selected team of specialists with the methodical focus of a prepared checklist. The result is a comprehensive process hazards analysis that is extremely useful in training operating personnel on the hazards of the particular operation.
- Hazard and Operability Study (HAZOP): HAZOP is a formally structured method of systematically investigating each element of a system for all of the ways in which important parameters can deviate from the intended design conditions to create hazards and operability problems. The hazard and operability problems are typically determined by a study of the piping and instrument diagrams (or plant model) by a team of personnel who critically analyze the effects of potential problems arising in each pipeline and each vessel of the operation.
- Fault Tree Analysis: A fault tree analysis is a quantitative assessment of all of the undesirable outcomes, such as a toxic gas release or explosion, which could result from a specific initiating event. It begins with a graphic representation (using logic symbols) of all possible sequences of events that could result in an incident. The resulting diagram looks like a tree with many branches — each branch listing the sequential events (failures) for different independent paths to the top event. Probabilities (using failure rate data) are assigned to each event and then used to calculate the probability of occurrence of the undesired event.

- Routine Hazard Analysis: Even simple processes are complex; they are impacted by human behavior, workplace variables, other business and natural forces, raw material variables, normal wear and tear, and more. Jobs once designed for safety may now have hazards or improper operations. The hazards analysis process, called a *Job Hazards Analysis (JHA)*, pulls processes back on the safety track periodically. Done for every job, a JHA ensures safe steps, teaches new workers, eliminates or controls hazardous materials, and much more.

2.2. Risk Register

A risk is any event that could prevent the project from progressing as planned, or from successful completion. Risks can be identified from a number of different sources. Some may be quite obvious and will be identified prior to project kickoff.
Others will be identified during the project lifecycle, and a risk can be identified by anyone associated with the project. Some risk will be inherent to the project itself, while others will be the result of external influences that are completely outside the control of the project team.
The Project Managing Team will have overall responsibility for managing project risk. Project team members may be assigned specific areas of responsibility for reporting to the Top Management.
Throughout all phases of the project, a specific topic of discussion will be risk identification. The intent is to instruct the project management team in the need for risk awareness, identification, documentation and communication.
Risk awareness requires that every project team member be aware of what constitutes a risk to the project, and being sensitive to specific events or factors that could potentially impact the project in a positive or negative way.
Risk identification consists of determining which risks are likely to affect the project and documenting the characteristics of each.
Risk communication involves bringing risk factors or events to the attention of the project manager and project team.
The Project Managing Team will identify and document known risk factors during creation of the Risk Register.
It is the Project Managing Team's responsibility to assist all project team members and other stakeholders with risk identification, and to document the known and potential risks in the Risk Register. Updates to the risk register will occur as risk factors change. Risk management will be a topic of discussion during the regularly scheduled project meetings.
The Project Managing Team will discuss any new risk factors or events, and these will be regularly reviewed.
The Project Managing Team will determine if any of the newly identified risk factors or events warrants further evaluation. Those that do will undergo risk quantification and risk response development, as appropriate, and the action item will be closed.
At any time during the project, any risk factors or events should be brought to the attention of the Project Managing Team using e-mail or some other form of written communication to document the item. The Project Managing Team is responsible for logging the risk to the Risk Register. Notification of a new risk should include the following Risk Register elements:

- Description of the risk factor or event, e.g. conflicting project or operational initiatives that place demands on project resources, unexpected study outcomes, delays, etc.
- Probability that the event will occur. For example, a 50% chance that a vendor will not have an equipment that meets the criteria available.

- Schedule Impact. The number of hours, days, weeks, or months that a risk factor could impact the schedule. As an example, time needed for well killing.
- Scope Impact. The impact the risk will have on the envisioned accomplishments of the project. Complex pore pressure profiles may result in more detailed well design planning.
- Quality Impact. A risk event may result in a reduction in the quality of work or products that are developed. As an example, lack of funding caused by cost overruns may result in the reduction of the study size and impact statistical empowerment.
- Cost Impact. The impact the risk event, if it occurs is likely to have on the project budget.

2.3. Risk Responsibilities

The responsibility for managing risk is shared amongst all the stakeholders of the project. However, decision authority for selecting whether to proceed with mitigation strategies and implement contingency actions, especially those that have an associated cost or resource requirement rest with the Project Managing Team which is responsible for informing the funding agency to determine the requirement for a contract modification. The following tables details specific responsibilities for the different aspects of risk management.

Risk Identification:	All project stakeholders
Risk Registry:	Project Managing Team
Risk Assessment:	All project stakeholders
Risk Response Options Identification:	All project stakeholders
Risk Response Approval:	Project Managing Team with concurrence from Contracting Office /Project Officer /Contracting Officer's Technical Representative
Risk Contingency Planning:	Project Managing Team
Risk Response Management:	Project Managing Team
Risk Reporting:	Project Managing Team

2.4. Risk Assessment

Risk assessment is the act of determining the probability that a risk will occur and the impact that event would have, should it occur. This is basically a "cause and effect" analysis. The "cause" is the event that might occur, while the "effect" is the potential impact to a project, should the event occur.

Assessment of a risk involves two factors. First is the probability which is the measure of certainty that an event, or risk, will occur. This can be measured in a number of ways, but for the project will be assigned a probability as defined in the table below:

Probability of Occurrences - Likelihood		
Definition	**Meaning**	**Value**
Frequent	• Occurs frequently • Will be continuously experienced unless action is taken to change events • Has occurred several times/year in asset area	**5**
Likely	• Occur less frequently if process is corrected • Issues identified with minimal audit activity • Process performance failures evident	**4**

	to trained auditors or regulators • Has occurred several times/year in company	
Occasional	• Occurs sporadically • Potential issues discovered during focused review • Has occurred some times in company	**3**
Seldom	• Unlikely to occur • Minimal issue identification during focused review • Has occurred in company	**2**
Improbable	• Highly unlikely to occur • Has occurred in Oil & Gas Indust.	**1**

The second factor is estimate of the impact on the project. This can be a somewhat subjective assessment, but should be quantified whenever possible. The estimated cost, the duration of the potential delay, the changes in scope and the reduction in quality are in most cases factors that can be estimated and documented in the risk statement and then measured using the standard project management tools (i.e. project plan, budget, statements of work).
Rather than detailed impact estimates the Risk Register contains five ratings for impact:

Catastrophic (A)
Regulatory / Compliance violations / issues
Inability to validate data
Withdrawal of equipment manufacturer
Materials breach
Production delays
Technical miscommunications
Security / confidentiality breaches
Asset: Loss of multiple systems including catastrophic loss of hydrocarbon containment and control systems. Production losses lasting longer than 28 days. Estimated damage and repair costs of greater than €10,000,000.
People: Multiple fatalities and or multiple permanent total disability including long term occupational illnesses such as poisoning or cancer.
Environment: Massive temporary and major permanent environmental damage. Constant high exceedance of prescribed emission limits. Company threatening financial penalty incurred (greater than €10,000,000). Major discharge of toxic materials. Major recovery programme to be implemented by mobilisation of international specialist organisations.
Reputation: International public concern. Extensive adverse attention in the national and international media. International /national political concern with restrictive measures and/or impact on grant of licenses. International mobilisation of action groups.

Critical (B)
A non-compliance finding resulting in process, or operational degradation
A security finding requiring immediate corrective action prior to continued operation
Reoccurring violation of any safety regulation resulting in serious injury
Production errors containing regulatory violations that pose direct consequence to the operation
Asset: Loss of a complete system or systems including structural collapse and catastrophic failure of hydrocarbon containment. Production losses lasting between 7 and 28 days. Estimated repair costs greater than €1,000,000 and less than €10,000,000.

People: Single fatality or permanent total disability including long term occupational illnesses such as poisoning or cancer.
Environment: Major temporary with measurable permanent environmental damage. Extended exceedance of prescribed emission limits. Major financial penalty incurred (greater than €1,000,000 and less than €10,000,000). Significant discharge of toxic materials. Remedial action required national specialist third party organisations mobilised.
Reputation: National public awareness and concern. Extensive adverse attention in the national media. Regional/national political concern with potentially restrictive measures and/or impact on grant of licenses. National mobilisation of action groups.

Moderate (C)
Security finding requiring a Corrective Action Plan
Production element errors that may pose indirect consequences to the operation
Asset: Loss of item of equipment or part of a system. Production losses lasting between 6 hours and 7 days. Estimated repair costs greater than € 100,000 and less than €1,000,000.
People: Major injury or health affect, irreversible health damage without loss of life (including permanent partial disability) of personnel.
Environment: Localised temporary with non-measurable permanent environmental damage. Multiple cases of exceedance of prescribed emission limits.Significant financial penalty incurred (greater than € 100,000 and less than €1,000,000). Slight discharge of toxic materials Remedial action required by off site third party.
Reputation: Regional public awareness and concern. Extensive adverse attention in local media. Slight national media and/or local/regional political attention. Adverse stance of local government.

Minor (D)
No regulatory action anticipated
No compliance impact anticipated
No evident security threat affected
Minor errors in completed Company policy & procedures
Production errors containing quality system and / or opportunities for improvement
Asset: Irreparable damage of a component part of equipment. Production losses lasting between 1 and 6 hours. Estimated repair costs greater than € 25,000 and less than € 100,000.
People: Potential lost time injury of personnel. Lost time injuries include any work-related injury or illness (including fatalities) which result in at least one lost workday after the day of the incident. Situations where an individual is capable of working, but unable to return to work solely due to circumstances such as an Employee unable to return to an offshore platform due to bad weather or lack of reasonably available transportation are excluded.
Environment: Minor temporary and no permanent environmental damage. Several cases of exceeding prescribed limits. Minor financial penalty incurred (greater than € 25,000 and less than € 100,000). No discharge of toxic materials. Minor remedial action required by outsourcing on-site third party involved.
Reputation: Public awareness may exist, but there is no public concern. Limited local media interest. No Local government interest. No National Government interest.

Negligible (E)
No regulatory / compliance violation
No security / confidentiality element affected
On time production

Validated operations
Acceptable product
Properly executed communications
Asset: Repairable damage to a component part of an item of equipment. Production losses lasting up to 1 hour. Estimated repair costs less than € 25,000.
People: First aid or medical treatment required for personnel First aid and medical treatment cases include:
- Treatment of an infection and application of antiseptics
- Application of bandages, etc for any wounds
- Removal of foreign bodies embedded in the eye
- Removal of foreign bodies from a wound
- Use of prescriptive or non-prescription drugs
- Application of hot or cold compresses or application of heat therapy
- X-ray diagnosis
- The administration of tetanus shot(s) or booster(s)

Environment: Slight temporary and no permanent environmental damage. Single exceedance of prescribed emission limits. Potential to incur nominal financial penalty (less than € 25,000). No discharge of toxic materials. Minor remedial action required by outsourcing no third party involved.
Reputation: Public awareness may exist, but there is no public concern. Limited local media interest. No Local government interest. No National Government interest.

For each of the impact categories the impact assessment should include consideration of the following areas of impact also:

- Cost – This impact is usually estimated as a dollar amount that has a direct impact to the project. However, cost is sometimes estimated and reported as simply additional resources, equipment, etc. This is true whenever these additional resources will not result in a direct financial impact to the project due to the fact the resources are loaned, the equipment is currently idle and there is no cost of use, or there are other types of donations that won't impact the project budget. Regardless of whether there is a direct cost, the additional resources should be documented in the risk statement as part of the mitigation cost.
- Scope – Whenever there is the potential that the final product will not be completed as originally envisioned there is a scope impact. Scope impact could be measured as a reduction of the number of studies completed, or not providing a deliverable.
- Schedule – It is very important to estimate the schedule impact of a risk event as this often results is the basis for elevating the other impact categories. Schedule delays frequently result in cost increases and may result in a reduction of scope or quality. Schedule delays may or may not impact the critical path of the project and an associated push out of the final end date.
- Performance / Quality – Performance / Quality is frequently overlooked as an impact category and too often a reduction in quality is the preferred choice for mitigation of a risk. "Short cuts" and "low cost replacements" are ways of reducing cost impacts. If not documented appropriately and approved by the project manager, mitigation strategies that rely upon a reduction in quality can result in significant disappointment by the stakeholders.

Most risks will be assigned one category, but some might be assigned more than one, or all.

2.5. Risk Response

For each identified risk, a response must be identified. It is the responsibility of the Project Managing Team to select a risk response for each risk. The Project Managing Team will need the

best possible assessment of the risk and description of the response options in order to select the right response for each risk. The probability of the risk event occurring and the impacts will be the basis for determining the degree to which the actions to mitigate the risk should be taken. One way of evaluating mitigation strategies is to multiply the risk cost times the probability of occurrence. Mitigation strategies that cost less than risk probability calculation should be given serious consideration. The possible response options are:

- Anoidance - Change the project to avoid the risk. Change scope, objectives, etc.
- Transference – Shift the impact of a risk to a third party (like a subcontractor). It does not eliminate it, it simply shifts responsibility.
- Mitigation – Take steps to reduce the probability and/or impact of a risk. Taking early action, close monitoring, more testing, etc.
- Acceptance – Simply accept that this is a risk. When choosing acceptance as a response the project stakeholders are stating that given the probability of occurring and the associated impact to the project that results, they are not going to take any actions and will accept the cost, schedule, scope, and quality impacts if the risk event occurs.
- Deferred – A determination of how to address this risk will be addressed at a later time. The results of the risk assessment process are documented in each Risk Statement and summarized in the Risk Register which will be reported on a monthly basis.

2.6. Risk Mitigation

Risk mitigation involves two steps:

- Identifying the various activities, or steps, to reduce the probability and/or impact of an adverse risk.
- Creation of a Contingency Plan to deal with the risk should it occur.

Taking early steps to reduce the probability of an adverse risk occurring may be more effective and less costly than repairing the damage after a risk has occurred. However, some risk mitigation options may simply be too costly in time or money to consider.

Mitigation activities should be documented in the Risk Register, and reviewed on a regular basis. They include:

- Identification of potential failure points for each risk mitigation solution.
- For each failure point, document the event that would raise a “flag” indicating that the event or factor has occurred or reached a critical condition.
- For each failure point, provide alternatives for correcting the failure.

2.7. Risk Contingency Planning

Contingency planning is the act of preparing a plan, or a series of activities, should an adverse risk occur. Having a contingency plan in place forces the project team to think in advance as to a course of action if a risk event takes place.

- Identify the contingency plan tasks (or steps) that can be performed to implement the mitigation strategy.
- Identify the necessary resources such as money, equipment and labor.

- Develop a contingency plan schedule. Since the date the plan will be implemented is unknown, this schedule will be in the format of day 1, day 2, day 3, etc., rather than containing specific start and end dates.
- Define emergency notification and escalation procedures, if appropriate.
- Develop contingency plan training materials, if appropriate.
- Review and update contingency plans if necessary.
- Publish the plan(s) and distribute the plan(s) to management and those directly involved in executing the plan(s).

Contingency may also be reflected in the project budget, as a line item to cover unexpected expenses. The amount to budget for contingency may be limited to just the high probability risks. This is normally determined by estimating the cost if a risk occurs, and multiplying it by the probability. For example, assume a risk is estimated to result in an additional cost of $50,000, and the probability of occurring is 80%. The amount that should be included in the budget for this one item is $40,000.

Associated with a contingency plan, are start triggers and stop triggers. A start trigger is an event that would activate the contingency plan, while a stop trigger is the criteria to resume normal operations. Both should be identified in the Risk Register.

2.8. Barriers / Controls

Barriers are the functional grouping of safeguards and controls selected to prevent the realisation of a hazard.
Each barrier typically includes a mix of plant (equipment), process (documented and 'custom and practice') and people (personal skills and the application). They can also take the form of procedures (ie operating manuals), systems (maintenance and inspection) etc. The selected combination of these ensures the barrier is suitable, sufficient and available to deliver its expected risk reduction.
Integrity barriers are considered in the following categories:

- Prevention – primary containment, process control, primary and secondary structure.
- Detection – control room alarms, fire / gas / leak detection.
- Control and mitigation – equipment orientation and spacing, secondary containment and drainage, blow-down systems, fire-protection and suppression.
- Emergency response – local alarms, escape and evacuation, emergency communications, emergency power.

With this approach, the number of barries (hardware or management system) for an asset can be held at a logical and manageable level. In contrast, a listing of individual 'critical equipment items' could number thousands and make systematic management difficult.
Performance standards for barriers are typically described in terms of functionality, availability, reliability and survivability. Performance standards thus determine equipment design specifications (original suitability) and also set requirements for maintenance and testing throughout the asset's lifecycle (ongoing suitability). As an example a faster blow-

down time may reduce the fire protectin requirements, but may also result in additional pipework, cooling or increased flare radiation.
As noted above, one or more of the defined barriers is emergency response. An optimised mix of hardware, procedures and personnel, with associated performance standards.
Training, staff competence, communication, reporting, audit and review are all controls that are required and would be implemented in all Projects.
Barriers and Controls visualization is achieved by the use of 'Bow Tie' models which indicates how barries and controls can both reduce the threats from a hazard and limit consequenses if the hazard is realised.

2.9. Tracking and Reporting

As project activities are conducted and completed, risk factors and events will be monitored to determine if in fact trigger events have occurred that would indicate the risk is now a reality.

Based on trigger events that have been documented during the risk analysis and mitigation processes, the project team or project managers will have the authority to enact contingency plans as deemed appropriate. Day to day risk mitigation activities will be enacted and directed by the project managers.

Contingency plans that once approved and initiated will be added to the project work plan and be tracked and reported along with all of the other project activities.

Risk management is an ongoing activity that will continue throughout the life of the project. This process includes continued activities of risk identification, risk assessment, planning for newly identified risks, monitoring trigger conditions and contingency plans, and risk reporting on a regular basis. Project status reporting contains a section on risk management, where new risks are presented along with any status changes of existing risks. Some risk attributes, such as probability and impact, could change during the life of a project and this should be reported as well.

2.10. Process to Address Immediate Unforseen Risks

The individual identifying the risk will immediately notify the project managers. The individual notified will assess the risk situation.

If required, the project managers will identify a mitigating strategy, and assign resources as necessary.

The project risk manager will document the risk factor and the mitigating strategy.

3. Appendix A – Risk Assessment Matrix

Probability of Occurrences			Catastrophic	Critical	Moderate	Minor	Negligible
Definition	**Meaning**	**Value**	**(A)**	**(B)**	**(C)**	**(D)**	**(E)**
Frequent	• Occurs frequently • Will be continuously experienced unless action is taken to change events	**5**	**5A**	**5B**	**5C**	**5D**	**5E**
Likely	• Occur less frequently if process is corrected • Issues identified with minimal audit activity • Process performance failures evident to trained auditors or regulators	**4**	**4A**	**4B**	**4C**	**4D**	**4E**
Occasional	• Occurs sporadically • Potential issues discovered during focused review.	**3**	**3A**	**3B**	**3C**	**3D**	**3E**
Seldom	• Unlikely to occur • Minimal issue identification during focused review	**2**	**2A**	**2B**	**2C**	**2D**	**2E**
Improbable	• Highly unlikely to occur	**1**	**1A**	**1B**	**1C**	**1D**	**1E**

Risk Levels:

- Risk is High for codes 5A, 5B, 5C, 4A, 4B, 3A
- Risk is Medium High for codes 5D, 5E, 4C, 3B, 3C, 2A, 2B
- Risk is Medium Low for codes 4D, 4E, 3D, 2C, 1A, 1B
- Risk is Low for codes 3E, 2D, 2E, 1C, 1D, 1E

4. Appendix B – Risk Register

RISK REGISTER	
LOCATION: :	JOB:

TASK	HAZARD	PERSONS AFFECTED	RISK L	RISK S	RISK R	CONTROL MEASURES List those provided and required	RISK L	RISK S	RISK R

ASSESSOR (S):	SUPERVISOR'S SIGNATURE	DATE OF ASSESSMENT:	SHEET: 1 OF: 1	ENERGEAN FORCE
		DATE OF REVIEW:	REVISION NUMBER:	

Appendix 4: EMERGENCY RESPONSE PLAN

HSE MANAGEMENT SYSTEM

OPERATING PROCEDURE

DOCUMENT NO:	EOG-EF-OPS-ERP-001
TITLE:	EMERGENCY RESPONSE PLAN ENERGEAN FORCE
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Note: The HSE Division is responsible for the control of revisions to the HSE Management System Documentation. Revision to this document may be requested by completion of a Request for Change Form.

0	21/08/15	Issued for use	VT	NR	WL
A	11/05/15	Issued for review & comments	VT	NR	WL
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Revision Record

Section	Page	Revision	Date	Description
All All	All All	A 0	11/05/15 21/08/15	Issued for review & comments Issued for use

Table of Contents

1.0 INTRODUCTION AND BRIDGING STATEMENT

This Emergency Response Plan (ERP) addresses emergencies that can develop onboard offshore Tender Assist Drilling Barge Energean Force and on the associated Drilling Equipment Set (DES) when deployed on Prinos Complex platforms. To reduce the possibility of confusion and avoid duplication of effort when responding to an emergency incident offshore, there is a generally accepted principle in an emergency of ***"single point contact"*** between incident site and base response. Where two or more groups are conducting operations at the same site simultaneously, one should be elected, prior to the commencement of operations, to accept overall responsibility for the management of response to an emergency. During the course of planned operations the Energean Drilling Supervisor (DSV) will assume this responsibility for Energean Force Barge and DES as On Scene Representative (OSR) and the Kavala Oil Offshore Operations Superintendent (OOSI) for the Prinos Complex platforms including relevant well head deck.

In the event of an emergency incident on board the Energean Force itself, the Energean Force (EF) Offshore Installation Manager (OIM) will lead ***offshore*** in providing incident response management and be the On Scene Commander (OSC).

Onshore Energean Office will provide incident response management by mobilizing the Emergency Co-ordination Team (ECT) and access to all available support services outlined in the Kavala Oil Contingency Plan.

In the event of an emergency directly related to the well, the DSV in conjunction with the OIM and the OOSI will lead the technical operations on the rig, deployed DES or platform. The OIM will take whatever actions he may consider best to secure the safety of rig personnel and the Tender Assist Drilling Barge and cooperate with the Offshore Operations Foreman (OOF) who will secure the safety of offshore operations personnel and the offshore Complex facilities.

2.0 SCOPE

This procedure outlines the actions to be taken in response to an emergency onboard the Tender Assist Drilling Barge Energean Force or on the DES when deployed on the Prinos Complex platforms.

3.0 OBJECTIVE

To describe the actions to be taken by Energean personnel in response to an emergency on the Energean Force Barge, DES or on the platform and to identify the roles and responsibilities of Emergency Response Personnel.

4.0 NOTIFICATION AND MOBILIZATION

The EF OIM, with help from the DSV should co-ordinate the gathering of information regarding any emergency related to the drilling activities undertaken, assessing the status of the incident. The DSV shall be reporting to the Emergency Coordinator (EC) and the Well Delivery Manager. The Duty EC will communicate with the Well Delivery Manager and decide whether to call the Emergency Co-ordination Team (ECT), in base. This includes operational situations, which may cause injury to personnel, damage to equipment or the asset, marine pollution and emergency relating to health. Figure 1 below shows an overview for the process of reporting Emergency Alerts.

Should the OIM be unavailable at the time of the event (i.e. be incapacitated due to the emergency situation) the Drilling Supervisor (DSV) will assume responsibility for the notification of EC.

Contact with the ECT should be immediately initiated by calling the Kavala Oil Switchboard (KOS). Person making contact must remember to give facility name / location, contact name and position, contact number, nature of incident and the assistance required.

Kavala Oil Switchboard communications:
VHF Channels 10, 14 - Phone lines: 2510 317201 ext. 281, 282, 292

Even where the full ECT may not be required, the EC must be informed of any situation that has (or could possibly escalate into one that could cause) any significant impact or threat to life, environment, major asset / production or Energean reputation.

If the OIM or DSV considers the ECT is required, he should himself instruct KOS to mobilise the ECT immediately (i.e. without waiting for EC instruction).

Contact details for all Energean Duty Personnel are contained in Appendix 1.

If in any doubt about how to contact the Energean for emergency support, route all initial calls through the KOS.

The following table details specific communication requirements for the differing types of emergency requiring Emergency support:

Emergency Type	Communications Required	Contact Numbers
Production & Process	Contact Delta platform Operations Foreman at Delta Control Room controlling production & process. Communicated details of the problem and emergency support requirements.	**VHF Channel 14, Phone line 2510 317201, ext. 101**
Logistics	Alert KOS and advise the location and situation and immediate requirements. Request KOS to ascertain immediate availability of Marine, Aviation or Medical support, as appropriate.	**VHF Channels 10, 14 Phone lines: 2510 317201 ext. 281, 282, 292**
Medical	Alert KOS to communicate Kavala Hospital (KHL) and ask for ambulance / advise the Medic / Company Doctor of the situation and immediate requirements to ensure appropriate medical support. Note: it may be more appropriate to have the rig Medic communicate details of casualties to the Company Doctor.	**KOS: VHF Channels 10, 14 Phone lines: 2510 317201 ext. 281, 282, 292 Hospital phone line: 2513 501100 Costas Moutsios (Company Doctor) mob: 6944 597026**

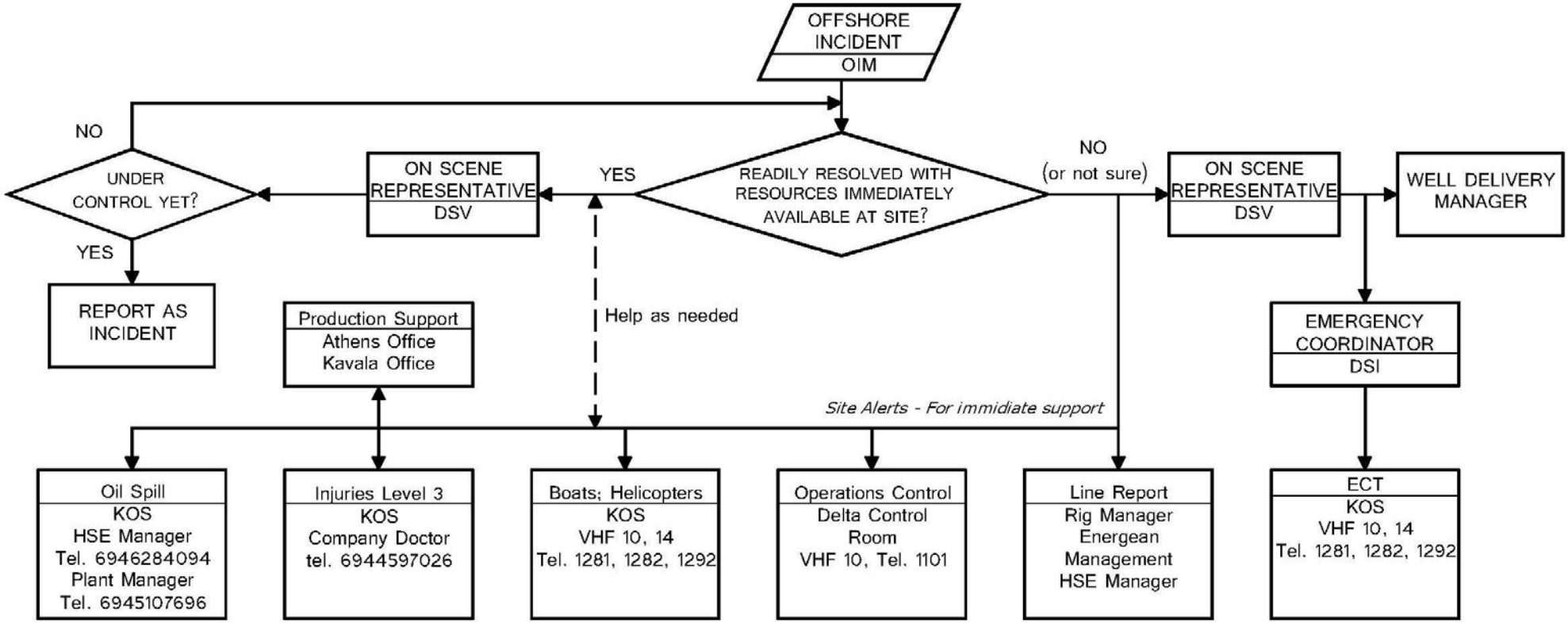


Figure 1 – Emergency Alerts and Reporting

4.1 Important Minimum Information

The following information should also be communicated to the EC and the Rig Manager.

- Who is giving the alert?
- What has happened? (Brief accident and medical description, injured or missing person/s).
- Where has it happened? Location, Weather conditions.
- When did it happen? (exact date and time).
- How many persons involved? Names and number of injured or deceased persons, nationalities, their present location, personnel headcount.
- Who is injured, extent of injury/fatality/damage?
- Who has been notified?
- What actions have been taken? Medical treatment given, MEDEVAC.
- What further measures are planned?
- Patient home contact numbers.
- What assistance is needed? (Evacuation rescue requirements).

Additional information

- Damage or loss of lifesaving equipment.
- Any restriction on helicopter or vessel operations.
- Action undertaken on the installation.
- Assistance requested of shore base or other agencies.
- Any other organization notified and assistance requested.

5.0 DEFINITIONS

5.1 Emergency

A sudden and unforeseen crisis (usually involving danger) that requires immediate action. The following levels are used by Energean to identify the scale of an emergency.

5.1.2 Level 1 Emergency

- Situation is under control, No off-rig assistance is required
- No further threat to personnel exists
- All critical safety systems and equipment are operational
- Personnel injuries are within rig medical capabilities
- Any environmental damage is contained

5.1.3 Level 2 Emergency

- Situation is being brought under control
- ECT call-out necessary, Some off-rig assistance is required
- All critical safety systems and equipment are operational
- Personnel injuries are within rig medical capabilities
- Any environmental damage is contained
- Local / regional media interest may develop

5.1.4 Level 3 Emergency

- The situation is escalating, Off-rig assistance is required to bring the situation under control, emergency evacuation is required
- Critical safety systems and equipment have been damaged
- Personnel injuries are beyond rig medical capabilities

- Fatalities have occurred or are likely
- Rig survival is threatened
- Environmental damage has not been contained
- Local / regional media interest is likely

5.2 Person in Charge (PIC)

The senior onsite Energean Representative charged with managing the response to the emergency. This will usually be the OIM unless another individual is nominated for operational reasons or the OIM is unable to assume this responsibility.

5.3 Support Organisation

5.3.1 Main Requirements

Energean is required to maintain an emergency response management system covering the Energean Force, personnel management, and 24hr links to drilling head office management.

Energean remains responsible for liaising with its sub-contractors in the event of an emergency.

5.3.2 Emergency Duty

Energean will maintain 24hr duty coverage onshore against the possibility of an emergency on the Energean Force. This Emergency Coordinator (EC) will ordinarily be the Drilling Superintendent, but there must also be an alternate available.

The OIM will notify the Rig Manager (or his alternate) of an emergency. If the ECT mobilises, the Rig Manager will proceed to the Emergency Coordination Centre (ECC) at the first floor meeting room in the Energean Offices at Kavala Oil plant and join the ECT as the Drilling Representative.

He will:

- Assume the role of technical advisor and / or operations advisor to the ECT.
- Notify drilling contractor head office of the emergency and have them stand-by to provide any technical support or advice that may be required.

5.3.3 Emergency Organisation

Energean offices in Kavala, involve the below staff (the Kavala Oil Contingency Plan will apply):

- Rig Manager - who would deploy to the Emergency Co-ordination Centre as described above
- Managing Director / Plant Manager/ HSE Manager / HSE Advisor - who would coordinate the office support, including:
  - Liaising with HR Support Team on details of particular
  - Liaising with Head Office (in Athens) on the details
  - Coordinate the release of announcements with the Energean Press Representative regarding injury / fatality with the next of kin (NOK), public or media
- Secretaries and Technical Staff - who would assist as directed e.g.
  - Answering phone queries and receive calls from relatives of next of kin (NOK) or media
  - Organizing logistics and care for evacuees, minor casualties, visiting relatives
  - Providing technical information from files

5.3.4 Relatives Notifications and Arrangements

It is essential to maintain close cooperation and mutual assistance to ensure timely and accurate notifications of injuries, and what is being done, to the relatives of those involved in any emergency. In the event of an emergency, these will be achieved through:

- Close liaison between the medical agencies involved (Kavala Hospital) and the:
  - Energean Emergency Coordination Team (via the Company Doctor in the ECT)
  - Energean HR Support Team (via the HR Support Team Leader)
- Liaison between HR Rep in ECT and Contractor Rep in ECT - to ensure clear understanding of Energean strategy on notifications to, and support for, relatives of those involved
- Liaison between Energean Human Resources Support Team and Contractor's Relatives Support Teams - on individual details and logistics arrangements

Energean and its subcontractors will maintain up to date personnel records for all employees. Records should be accurate and accessible in the event of emergencies.

In the event of an emergency, Energean is responsible for ensuring appropriate notifications are made to:

- Their employee's Next Of Kin [NOK]
- Subcontractors working for them, so they can notify their employees NOK

However, where there are potential synergies and where it may best be handled jointly, Energean and contractors will work together to ensure timely and sympathetic advice and assistance to the relatives of those involved.

General information about the emergency must only be given as approved for release by Energean Management and in accordance with the strategy decided.

5.3.5 Media Response

Energean has a media response representative in the Athens Offices who will coordinate all media releases.

In case of emergency a "radio-silence" rule shall come into force and no information to anyone outside (media, friends, relatives etc.) apart from a personal answer in a possible call, e-mail or social media, like "I am fine, can not talk right now", shall be given.

No media releases shall be issued by contractors.

A pro-forma press release, referred to as a "Press Holding Statement" has been prepared by Energean. This holding statement will be released as and when deemed appropriate by Energean.

Any Media calls made to contractor's offices shall be referred to the Energean Media Support Team via:

- Energean Switchboard: +30 2108174200
- Media Enquiry Numbers supplied at the time

6.0 RESPONSIBILITIES

Figure 2 below shows how the emergency preparedness organisation onboard the Energean Force is structured and indicates primary communications channels with shore based support. The chart illustrates the chain of command and the lines of communication in case of emergency.

6.1 OIM

The OIM has the ultimate responsibility and overall accountability for the safety of personnel and the environment on the Tender Assist Barge and will act as the On Scene Commander.

The OIM shall work in close collaboration with the Energean DSV to establish and maintain contact with the Emergency Coordinator (EC) and the Emergency Coordination Team (ECT).

The OIM has the overall responsibility for evacuation of the Tender, regardless of whether it is a partial or a full evacuation. However, the decision to evacuate should be made in consultation with EC where possible.

The OIM shall at all-time make sure that the EC is fully informed on all matters of importance related to the safety of the Tender.

The OIM, jointly with the Tool Pusher, is responsible for assessing the need to suspend the drilling operation (if applicable) and will ensure that the rig and service companies operate in accordance with the relevant procedure, as defined in this bridging document, relevant legislation and contractual obligations.

The OIM may delegate some of his tasks and duties, but not his responsibilities.

The OIM shall ensure that every person subject to his authority is made aware of and complies with the provisions of the Energean Emergency Procedures. He will maintain close relation with the DSV in the implementation of these emergency response activities.

6.2 Energean Drilling Supervisor (DSV)

The DSV acts in the role of On Scene Representative and as such is responsible for coordinating the Energean's support. During well-related emergencies the DSV will assist the OIM in directing well control activities and technical operations on the Platform. He will establish and maintain contact with Delta Control Room and his onshore Operations Advisor in the ECT. He will fulfil the Data Logger function in emergency situations and ensure that an accurate time/activities log is maintained so that all team members can share the same information.

6.3 Energean Drilling Superintendent (DSI)

The Energean Drilling Superintendent will act as the rig Emergency Coordinator (EC) and control the minute-to minute activity on the barge and the DES by instructing the fire teams, medical teams, and any other specialist teams under the direction of the OIM.

6.4 Muster Controller

The Muster Controller is tasked solely with the responsibility of for accounting for all Personnel on Board (POB), including the tracking of casualties.

6.5 Archer Rig Manager

The Archer Rig Manager will report to the Energean ECT to provide technical information to assist in response to the emergency situation and to interface with the Archer emergency response team i.e. with liaison with Next of Kin.

The Rig Manager assesses the emergency and determines, with concerned OIM, the Plant Manager and the HSE Manager, the severity and declares the appropriate level of mobilisation of the emergency team members.

Figure 2 - EMERGENCY RESPONSE OVERVIEW

Level 3 Emergency:

- The situation is ongoing or escalating
- Off-rig assistance is required to bring the situation under control
- Emergency evacuation is required or may become necessary
- Critical safety systems and equipment have been damaged
- Personnel injuries are beyond rig medical capabilities
- Fatalities have occurred or are likely
- Rig survival is threatened
- Environmental damage has not been contained
- Local/regional media interest is likely

Person in Charge

- After having personnel connected for 45 min in cascade systems at muster points, instruct them to prepare for down-manning
- Call rig emergency responsible teams to emergency stations and deploy them as necessary
- Declare MAYDAY as appropriate
- Call-out emergency services
- Alert local installations, ships and helicopters
- Alert onshore emergency teams and have them mobilize any specialist resources still required (e.g. further helicopters, doctor)
- Take specific emergency actions

Level 2 Emergency:

- Situation is being brought under control
- Rig ECT call-out necessary
- Some off-rig assistance is required
- All critical safety systems and equipment are operational
- Personnel injuries are within rig medical capabilities
- Any environmental damage is contained
- Local/regional media interest may develop

Person in Charge

- In any case of alarm instruct all personnel to don their BAs
- Call for all non-essential work to be stopped and all worksites made safe
- Call all persons to muster points, having donned their BAs and be connect to cascade systems
- Call rig emergency response teams to emergency stations and deploy them as necessary
- Alert emergency services if appropriate
- Alert local installations, ships and helicopters
- Alert onshore emergency teams and have them mobilize any necessary specialist resources or materials
- Take specific actions as per emergency checklists (appendix 10)

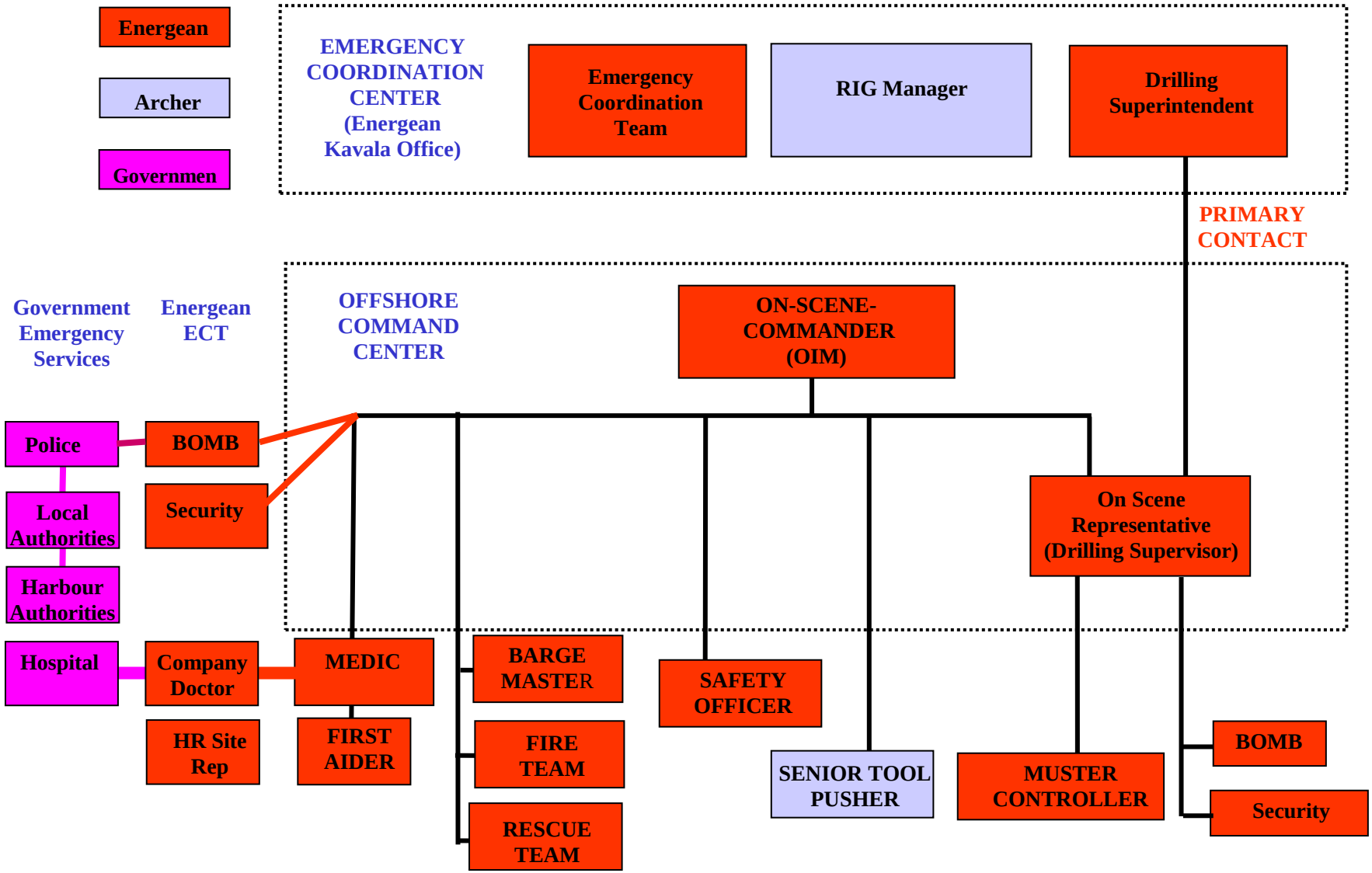
Level 1 Emergency:

- Situation is under control
- No off-rig assistance is required
- No further treat to personnel exists
- All critical safety systems and equipment are operational
- Personnel injuries are within rig medical capabilities though medevac may be necessary
- Any environmental damage is contained

Person in Charge

- In any case of alarm instruct all personnel to don their BAs
- Stop all non-routine work
- Ensure all persons are accounted for, call a muster if necessary
- Alert rig emergency response teams to stand ready
- Inform onshore management of events
- Take any necessary actions

Figure 3 - EMERGENCY RESPONSE ORGANISATION: Energean Force



7.0 SAFETY EQUIPMENT, PLANS AND HAZARDOUS ZONES

The Tender Assist Drilling Barge is equipped with various safety related equipment including, but not limited to, Helideck fire monitors plus required fire fighting and life saving equipment. An Emergency Command Center is also located onboard the Energean Force for use by the OIM in coordinating all emergency response activities.

The Life Saving Appliances, Fire & Safety and Hazardous Area Plans are positioned in all relevant barge and rig areas. All safety equipment is positioned in line with these plans.

An Emergency Response Teams Listing is also maintained onboard the Energean Force and displayed in prominent location for the information of all personnel at the rig site (Appendix 9).

A Station Bill is also maintained and posted, detailing high level roles and responsibilities and muster and lifeboat stations for all personnel at the rig site (Appendix 10).

Abandon Ship Alarm on the Energean Force:

- The abandon ship alarm will be sounded on the decision of the OIM.
- The OIM will advise the Drilling Supervisor (DSV) of the situation.
- Personnel on board the Energean Force will then implement Energean emergency response procedures.
- Personnel present on the platform will remain on the platform and remain in communication.

In all these cases, the DSV will inform the Drilling Superintendent (DSI) onshore who will implement the Emergency Response Plan.

Emergency Response Arrangements on the Platform

An Emergency Shutdown system (ESD) is installed on the Prinos Complex platforms where Energean Force will work. The following circumstances cause an emergency shutdown of the platform:

- Detection of fire on the platform by a cross-zone pair detector of the fire detection system.
- Detection of combustible gas at high level.
- Activation of an ESD at a manual call point.
- Activation of a process emergency shut down.

Should an emergency occur on the platforms during planned activities, any person working on Energean Force DES or the barge should ask permission from the OIM to shut down Energean Force activities by operating the ESD system “kill knobs”. This authority applies to all drilling or barge personnel. If an emergency shut down is necessary, the person who shuts down activities must immediately inform the Drilling Supervisor and OIM about the emergency situation. ESD switches will be located at the following locations:

- At the drill floor
- In the Motor Control Center
- On the Energean Force, in the OIM Office

If the BOP is activated to control the well being worked on, all production activities must be immediately stopped on the platform by instructing Delta Control to activate the production platform ESD system.

Dry powder fire extinguishers will be located on the platform during all combines activities. The Offshore Operations Safety Officer of Delta platform will be responsible for ensuring that sufficient extinguishers are available on the platform's Wellhead Deck (WD) during combined activities. Four fixed fire monitors are installed at the platform's WD connected to the Delta Complex fire detection system. Furthermore a foam tank system is installed on the production platform Top Deck (TD) and one fire hose connected to the main fire fighting system is installed on the WD and on the TD. Personnel should only attempt to fight fires which can be readily extinguished with existing fire fighting equipment. If a major fire occurs, all personnel must evacuate the production platform.

The platform has escape routes leading from the WD or the TD to stairways and the bridge to Delta platform and to the boat landing area. However, during combined operations, the primary means of escape for Drilling personnel in an emergency situation will be to the Energean Force via the PAR. Escape via the bridge to Delta platform or the production platform boat landing area i.e. to the sea using life raft, life jackets or to Standby boat, will only be used should escape to the Energean Force not be available. A life raft and life jackets will be located at the production platform boat landing deck during all combined operations to enable escape to the sea. It will be the responsibility of the Delta Complex Safety Officer to ensure these life jackets remain available during the course of the project.

The platform is protected by a fusible loop and a fire and gas detection system. Fire, gas and UV detectors are installed and connected to the local Control Room (CR) on Delta platform.

The fire and gas detection system causes audible and visual alarms in the CR depending on the circumstances.
On fire detected by one UV detector a fire alarm will be initiated. On fire detected by a cross-zone pair, in addition to starting up the fire pumps, an ESD for the production platform will be initiated. The shutdown of the wells on both Alpha and Beta platforms is accomplished either by shutting-in all well valves; that is, downhole, master and wing or just by shutting the wing valves.
A total shutdown of all wells (downhole, master and wing valves) will be initiated by depressurizing the ESD (or "fusible) loop.
A low level combustible gas alarm will cause an audible gas alarm, while a high level combustible gas alarm will cause an ESD at all well wing valves.
H2S detection will cause H2S alarm activation.

Four audible alarms are generated over the Prinos Complex public address system speakers.

1. Priority 1: Hi-Lo (uninterrupted) pitch – Abandon platform
2. Priority 2: Hi to Lo (interrupted– slow whooping) pitch – H2S & Combustible Gas
3. Priority 3: Intermittent (interrupted – repeating yelp) pitch – Fire Hazard Conditions
4. Priority 4: Continuous (uninterrupted) pitch – Process & ESD

In addition, during combined operations, the Energean Force H2S detection system will be extended on the platform WD and connected to the main detection panel at the Energean Force Radio Room (RM).

8.0 COMMUNICATIONS

8.1 Energean Office Numbers

Location	Contact Details	
Athens Office 32 Kifissias Ave. Atrina Center, 17th floor, Greece	Office Tel: Fax: E-mail :	+30 210 8174200 +30 210 8174299 info@energean.com
Kavala Office Nea Karvali, Greece	Office Tel.: Fax:	+30 2510 317099, 317201 +30 2510 317099, 317204

8.2 Kavala Emergency Telephone Numbers

For details of routine emergency contact refer to Appendix 1 of this document.

9.0 EMERGENCY RESPONSE SITUATIONS

In many of the scenarios noted below, where the emergency event occurs on the Platform or within the installed Drilling Equipment Set (i.e. in the case of an uncontrolled well control incident), the safest and most expedient response may be to evacuate all personnel to the barge and move the barge to a safe distance from the platform using the anchor winches. The decision on whether this is the safest course of action is dependent on many factors such as the nature and severity of the incident and prevailing environmental conditions (i.e. wind strength and speed, tidal conditions etc.). Consequently, this decision must be made by the OIM in close consultation with the Drilling Superintendent and the Prinos Complex Operations Superintendent.

The Energean Force will move to survival position in the following uncontrolled cases:

- Fire on the Tender Assist Drilling Barge
- Fire or explosion on the Platform or problems linked to the well
- Uncontained well control incident
- Uncontained shallow gas event
- Risk of collision
- Bad weather

Alternatively, should the emergency situation arise on the Tender Assist Barge, evacuation of all personnel to the Platform should be considered. Again this decision is dependant on many factors such as the nature and severity of the incident and environmental conditions and the decision should be made by the OIM in close collaboration with the DSV and the Offshore Operations Superintendent. From Delta platform, personnel may be evacuated by boat.

Escape routes between the Energean Force and the Platform will be clearly marked, as will muster areas on the Tender Assist Barge.

9.1 Fire & Explosion on the Energean Force

In the event of fire or explosion, all personnel should muster upwind of the source of smoke, as this could potentially be dangerous to health.

The person discovering Fire while shouting “Fire” will raise the alarm. Activate the nearest fire alarm panel or announce on the P.A. system. If it is safe he will help removing injured person/s from the affected area. If he is trained he will attempt to fight the fire until relieved by the rig fire team.

THE OIM

- Evaluates and acts as appropriate on any advice given by shore base
- Sounds intermittent ringing of the fire alarm.
- Broadcasts on P.A. location of fire, extent and type of fire.
- Evaluates the situation based on all available information.
- Decides if partial evacuation is required and means of evacuation (lifeboat, transfer to standby vessel, the Platform or helicopter).
- Ensures all available systems and equipment is available and used to control and contain the fire.
- Ensures vents are closed as required; power is cut to affected areas where it may pose a hazard to the emergency team.
- Alerts Rig Manager of the emergency information as per section 4.1
- Ensures the ship log is maintained during the emergency.
- If the need arises for a personal assessment of the situation, then the Command Center (OIM Office) duties should be relinquished to the off duty Tool Pusher who is present in the Command Center (OIM Office).

SENIOR TOOL-PUSHER, DRILLER AND DRILL CREW

- Suspends drilling operations and secure the well.
- Proceeds to the scene of emergency. Give directions to the Drill crew.
- Accounts for crewmembers and report to the Command Center.

DRILLING SUPERVISOR (DSV)

- Reports to the Command Center at the OIM Office.
- Liaises with OIM and assist the OIM.
- Ensures communication with the Emergency Coordination Team (ECT).

BARGE MASTER

- Coordinates with Deck Foreman.
- Reports OIM Muster attendance to the Command Center.
- In command at the scene of the fire.
- Coordinates damage control, equipment isolation, ventilation shutdown, boundary cooling, rescue operations and fire fighting.

CHIEF ENGINEER – Maintenance Supervisor

- Proceeds to Maintenance Team Muster Point.
- Reports attendance to the Command Center.
- Takes charge to secure engine room.
- Liaises with OIM and advice on shutting down or isolating equipment.
- Liaises with Chief Electrician and Chief Mechanic. Maintains power and starts fire fighting pumps.

MEDIC

- Leads Medical Team.

- Proceeds to the Medical Team Muster.
- Prepares first aid bag and stands by to undertake medical duties as requested by the OIM or his designate.

RADIO OPERATOR

- Reports in to Command Center. If safe, then man Radio room and standby.
- Alerts standby boat to proceed to rig.
- Issues hand held radios to muster takers.
- Shuts down nonessential telephone communication and gives priority to telephone at the Command Center and Energean office.
- Communicates with shore base.
- Maintains a log of events in the ship log.

In the event of the fire affecting additional hazards such as explosives, radioactive sources or hazardous chemicals, the following precaution should be considered.

- The OIM shall ensure that the hazardous goods register is up to date and that Material Safety Data Sheets (MSDS) are onboard for all explosives.
- If a real possibility exists of the explosive device been affected by the fire then jettison the explosive. Consider jettison RA container with marker buoy.
- If the above is not possible then remove the explosive from the area.
- If this is not possible then cool the container with water, attempt to secure a hose so as to avoid placing personnel in close proximity.
- Minimize number of personnel in vicinity of explosives.
- Hazardous goods register is up to date and (MSDS) are available onboard. Seek advice from 3rd party personnel responsible for the RA source.
- Move storage container to a safe location 3 meters away from personnel.
- Cool container with water from a safe distance, (3 meters).
- Post warning signs and set up barrier to keep personnel well clear.
- All members of ERT exposed to smoke or fumes should Don SCBA sets.
- On completion of fire fighting all members of the emergency response team and their equipment should be decontaminated.

9.2 Fire on the Platform

In the case of a fire alarm in the Production Area on the Prinos Complex Platform:

- Contact the Delta Control and ask to sound the platform emergency alarm.
- Contact the DSV.
- Evacuate all non-essential personnel to the Energean Force barge.
- Under the direction of the Delta Operations Foreman and in collaboration with the DSV and the OIM, required help will be provided to fight the fire as advised.
- The DSV will ensure the coordination of affected parties. He will contact the OIM and ask him to get ready to make the well safe and evacuate the platform.

If the fire worsens and cannot be controlled:

- Delta Control will initiate emergency shut down & decompression of production.
- The OIM will initiate Energean procedures to make the well safe and evacuate drilling personnel and ensure the DSV is kept informed.
- Complete total evacuation of all personnel to the Energean Force.

- Once all personnel have been accounted for on the Energean Force, commence fighting the fire with all available fire fighting systems.
- Move the Energean Force to a safe position away from the Platform.

In case of Fire in the DES:

- The OIM will implement procedures to make the well safe and prepare to evacuate all non-essential personnel.
- The OIM will keep the DSV informed of the situation.
- Attempt to fight the fire with all available fire fighting equipment.
- The DSV will contact the Offshore Operations Foreman and ask him to get ready to make the production facility safe and to evacuate the platform.
- Should it prove impossible to control the fire, evacuate the Platform as detailed above.

9.3 Gas or Condensate Leakage on the Platform

The following controls shall apply during production activities on-board the platform during combined operations.

- The operations personnel will sound the emergency alarm on the platform and contact the DSV.
- The operations personnel will evacuate all rig non-essential personnel to the Energean Force and all offshore platform non-essential personnel to Delta platform.
- Under the direction of the Offshore Operations Foreman, operations personnel will attempt to isolate the leak.

The DSV:

- will contact the OIM and instruct him all rig personnel to mask up and to make the well safe and evacuate the area.
- will ensure the coordination of all involved parties.

If the leak of gas cannot be controlled or increases:

- Alert all personnel on the barge, instruct them to mask up and act according to the Station Bill.
- Initiate emergency shut down and decompression of production.
- All rig personnel will evacuate the platform to the Energean Force.

In case the gas alarm goes off in the DES area, the OIM will ensure that the bit is picked off bottom and the well closed in and will inform the DSV. The DSV will then contact the platform operations personnel and instruct them to make the platform safe and to evacuate the area.

9.4 Well Kick or Blowout

In the event of a well kick when there is failure to contain formation fluids the Driller will shut the well in at the BOP stack.

The OIM in collaboration with the Drilling Supervisor is responsible for assessing the situation and making the final decision on the course of actions required.

PHASE 1 CONDITION

If conditions such as excessive shut-in casing pressure exist, and are cause for concern over the safety of people on board, the OIM will inform the DSV, the Delta Control Room and Energean base immediately. The following course of action shall be taken:

OIM

- Will activate the H2S alarm (if not automatically done), monitor H2S existence and make PA announcements
- Will instruct all personnel don their Breathing Apparatus, mask up and act according to the Station Bill,
- Will ensure that all open flames (i.e. hot work) are immediately extinguished on both the platform and the Energean Force barge.
- Have Radio Operator notify the standby vessel and advise to proceed immediately to the area and standby clear and upwind to the rig / platform.
- With the Drilling Supervisor, determine if non-essential personnel should be evacuated to the Energean Force.
- Will keep the Drilling Supervisor informed of the situation at all times.

After well is under control, advise the rig personnel that danger is over.

BARGE MASTER

- Have Roustabouts see that all water tight doors and hatches are closed.
- Notify Welders to stop all Hot Works.
- Assist the OIM if evacuation of any personnel is deemed necessary.

CRANE OPERATOR

- Help the Barge Master and lead the roustabouts.

DRILLER / DRILL CREWS

- Execute with well control procedures.

RADIO OPERATOR

- Notify the standby vessel captain to proceed to the area and standby.
- Contact the Rig Manager and advise that Phase 1 condition exists.
- Notify shore base personnel when well is under control.

PHASE 2 CONDITION

The OIM and the Drilling Supervisor determine that the situation is of such a nature that equipment might not control the well. This normally would have been preceded by a Phase 1 condition that all personnel have already masked-up and connected to the muster areas. The following course of action shall be taken:

OIM

- Have all personnel put on their life jackets.
- Have all non-essential personnel evacuate the platform to the Energean Force.
- Advise Delta Control Room and the shore base ECT that Phase 2 condition exists and ask them to alert the Sea / Air Rescue Service in case of emergency.

- If the well is controlled advise the rig and shore base personnel that the danger is over and prepare to take on personnel from the standby vessels.

BARGE MASTER

- Assist in the evacuation of rig personnel.

RADIO OPERATOR

- Announce Blow-out on P.A. system.
- Contact the Rig Manager, advise that Phase 2 condition exists.
- Notify shore base personnel when well is under control.

UNCONTROLLED BLOWOUT - Abandon Platform

In this case sound the Abandon Platform alarm (continuous ringing of alarm bells) and announce "Abandon Platform...." over the Rig P.A. system. Inform Delta Control Room about the situation and ask for a general platform ESD. Follow the Abandon Rig Procedures:

1. OIM and Drilling Supervisor to order partial or full evacuation to the Energean Force.
2. Open communication with Delta Control Room and shore-base.
3. Request standby boat to prepare to approach the Platform.
4. OIM to initiate rig shutdown.
5. Initiate personnel accounting on the Energean Force.

If predetermined procedures are broken or complicated by events, OIM will evaluate situation and decide on action require

Hydrogen Sulphide Poisoning

The prompt and methodical action in all cases of H2S poisoning is very important.

Before attempting to rescue a person poisoned by H2S, potential rescuers must put on their own breathing apparatus.

On transfer to a cleaner environment, resuscitation must be commenced with the minimum delay. Resuscitation attempts will continue until the patient either resumes breathing, he is pronounced dead by a Doctor, beyond any doubt what so ever.

After resuscitation all patients must be medically examined before being allowed to resume duty. After an apparently full recovery, reflexes and judgement capacity can be impaired for some time depending on the individual's body tolerances.

In all cases of H2S poisoning, resuscitation equipment will be kept at immediate readiness while the patient is being transported.

Where more than one person is involved in an incident of H2S poisoning but there are no fatalities, the following will apply:

Where no other factors are involved, after administering First Aid and resuscitation the DSV will call the onshore EC (DSI) and ask him to mobilize the Emergency Coordination Team (ECT) through the Kavala Oil Switchboard (KOS).

The KOS will arrange for transportation and medical assistance and in addition it will call the all participating in the ECT.

The ECT being informed will immediate arrange an on-site inspection. The Inspection Team will take charge of any Breathing Apparatus or Gas Detection equipment that may have been involved in the incident and ensure that it is placed in a sealed container pending examination. They will also ensure that all conditions are safe before permitting restart or continuation of operations. They will maintain contact with ECT until the situation is normal.

The ECT will inform Local Authorities as necessary, and will arrange for back-up assistance if necessary.

If other factors are involved (damage, pollution) further action will be taken according to the extent of the incident.

9.5 Collision with the Barge

In the event of any other vessel colliding with the barge, the OIM will assess the extent of the damage. He will ensure that:

OIM

- The Radio Operator will send a “MAYDAY” signal if appropriate.
- Sound General Alarm and prepare crew for evacuation.
- Make P.A. announcement to direct crew to alternate lifeboats if any are damaged due to collision.
- Direct Senior Tool Pusher / Driller to secure well.
- Ensure all personnel are accounted for.
- Direct Barge Master and Chief Mechanic to undertake damage control.
- Inform standby vessel to prepare for rescue and evacuation duties to rig and colliding vessel.
- Barge Master will secure watertight doors and hatches if required.
- Inform Rig Manager of collision, damage and course of action.
- Evacuate non-essential personnel as deemed necessary.
- Ensure monitoring of hull integrity and location of possible damage.
- Ensure ship log is maintained with all relevant information of collision and remedial action.
- Make temporary repairs to maintain safe integrity of rig.
- Assist other vessel in rescue of personnel and treat casualties.

BARGE MASTER

- Account for all personnel.
- Ensure watertight integrity. Close doors and hatches if required.
- Supervise damage control and marine crew operations.
- Access distance to closest safe protected area and water depth.
- Barge Master to counteract any flooding to maintain stability.
- If under tow, inform tow vessel(s) of collision and stop tow. Slip tow as necessary and instruct tow vessels on assistance required at the rig.
- Evacuate non-essential personnel as deemed necessary.
- Ensure monitoring of hull integrity and location of possible damage.
- Ensure ship log is maintained with all relevant information of collision and remedial action.

CHIEF ENGINEER – Maintenance Supervisor

- Assist Barge Master with damage control and assessment.

- Secure power and utilities.
- Assist OIM as instructed.
- Direct Chief Electrician and Chief Mechanic as appropriate

RADIO OPERATOR

- Send emergency transmissions as directed by OIM.
- Inform shore base of situation.
- Maintain ship log.
- Make temporary repairs to maintain safe integrity of rig.

9.6 Helicopter Crash

Any helicopter emergency requires quick response to save life. Outlined below are the three base cases of helicopter emergencies.

In the event of Aircraft Overdue, Helicopter 'MAYDAY' transmission or Heavy Landing, uncontrolled contact with the Installation or Crash near the Installation the following action will be taken:

An aircraft is overdue when: Five minutes elapse from the Estimated Time of Arrival (ETA) at an offshore or onshore installation with no radio contact, If it cannot be reached by normal or previously arranged radio communication. If it fails to land within 5 minutes of been given landing clearance and does not respond to radio call.

A helicopter crash on any part of the rig apart from the helideck must be considered as a **fire and explosion hazard** with additional complication of spilt jet fuel and a need to rescue passengers and crew. The helideck crew should be ready for an immediate response.

RADIO OPERATOR

- Inform the OIM and DSV.
- Send 'PAN" emergency broadcast on marine and aeronautical frequency.
- Make all possible efforts to contact the aircraft.
- Contact controller at point of departure i.e. the Helicopter base and advise.
- Contact and advice shore base.
- Standby in radio room, monitor marine and aeronautical frequency.
- Obtain and record all information transmitted by helicopter pilot.
- Standby for emergency transmission and relay messages from Helicopter Landing Officer (HLO).

OIM

- Alert other vessels & installations to be ready for search and rescue.
- Inform shore base Rig Manager of situation.
- Liaise with DSV on situation.
- If standby vessel is dispatched for search and rescue duties, restrict operations to cater for this.
- Restrict personal communication to avoid inaccurate information reaching passenger families or the media.
- Inform shore base Rig Manager of situation.
- Authorize launch of lifeboat or fast rescue craft to pick up survivors if deemed necessary.
- Inform base ECT of situation and prepare to take casualties for treatment and transfer.

- Initiate 'Medical Emergency Response Plan'

DRILLING SUPERVISOR

- Inform base ECT of situation.
- Liaise OIM and approve support vessel movements as necessary.
- Liaise with Helicopter Company.

HELICOPTER LANDING OFFICER (HLO)

- Inform the Radio Operator of the emergency on the aeronautical frequency radio and request general alarm.
- Commence rescue and fire fighting duties if necessary.
- Advise Radio Operator of developments.

BARGE MASTER

- Sound general alarm.
- Organize Emergency response party to back up helideck crew.
- Inform Standby vessel of situation and request assistance as deemed necessary.
- Respond to information received from helicopter pilot and HLO via radio room.

9.7 Man Overboard Emergency

If anyone witnessing a person fall overboard will instruct people in the vicinity to raise the alarm by paging on P.A. system. He should hail "MAN OVERBOARD". Deploy the nearest life ring, or life jackets to the person in the water. And maintain permanent watch of the man in the water.

Only as a last resort will he abandon his watch of the man to raise the alarm.

OIM

- Broadcast "Man Overboard" alarm on P.A., giving the location of the incident.
- Alert standby vessel and Crane Operator of the "Man Overboard" condition and his location to confirm action to be initiated.
- Direct Barge Master to prepare fast rescue craft or personnel basket.
- Request any vessel in the area to mobilize for search and rescue operations.
- Direct marine deck crew to scene of incident.

RADIO ROOM

Stop all communications, prepare for transmitting of emergency messages as instructed by OIM to alert all vessels and facilities for search and rescue assistance.

INSTALLATION MEDICAL PERSON
Prepare to receive casualties and open communication with base and on Company Doctor.

DRILL CREW

- Stand by for instructions.

CRANE CREW

- Prepare rescue craft or hook on personnel basket to the crane as instructed by Command Center.
- Maintain radio contact with Command Center.
- Send 2 men to scene of incident to provide additional assistance.

DRILLING SUPERVISOR

- Communicate with base ECT to request for MEDEVAC.
- Anyone rescued from the water is to be sent to town as soon as possible for medical examination. His condition will be constantly monitored at all times while hospitalized on the rig.
- Any transport will be arranged in conjunction with medical assistance.

Unsuccessful Immediate Rescue Crew Responsibility and Action

OIM

- Inform Rig Manager. Initiate and coordinate search and rescue procedures. The use of rescue boat is to be considered by the OIM.
- Request helicopter search and rescue assistance.
- Prepare Helideck crew for search and rescue operations.
- Estimate drift since last sighting.
- Liaise with base ECT in coordinating search and rescue.

DRILLING SUPERVISOR

- Inform base ECT of situation.
- Liaise with OIM and approve support vessel movements as necessary.
- Liaise with base ECT to arrange availability of a vessel / helicopter.

9.7.1 Missing Person

If it is suspected that a person is missing, a report must be made immediately to the Radio room. If the last known worksite or sighting was at, or near, any place where the person could have fallen into the sea then the control room will initiate man overboard Emergency Procedure immediately.

The OIM along with the reporter will stop all work, check cabin and make an announcement on P.A. to read:
*"Attention - Attention, will (Mr. **Name**) contact the Radio Room immediately"*

Failure to locate a person immediately will initiate the further following actions:

OIM

- Call Barge Master to the Command Center and inform the situation.
- Call the Standby Boat and advise that you are searching for a missing person, order the actions required for a possible man overboard.

All persons (awake) will be enlisted to look for the person. This will be accomplished by P.A. information and telephone calls and grouping. MUSTER: Sound the "General Alarm" + P.A. - "Emergency Muster" - “All persons to Muster Stations". Muster Accountability - Account for all persons on the installation by the muster process.

Mobilize Emergency Response Team and area authorities to search all spaces in the installation i.e. inside open tanks, derrick, accommodations, and under machinery.

The Immediate search to be conducted is:
All personnel as directed by the OIM will work around installations periphery checking the sea for floating objects or evidence of man overboard. A team will be dispatched to the DES and Mud pits for search and rescue.

If not located, launch rescue boat or advise Standby Boat to perform full search pattern, direction of drift. Advise attendant vessels, and enlist their Services. Alert shore base of possible person lost overboard to advise ECT to contact Port Authorities and place helicopter on standby to conduct search and rescue operations at the rig site.

After searching without results:
Call shore base - request sea search by all available assets. Initiate internal communications - for circulation of information.

Thorough Search:
A thorough search of the rig will be ordered by the OIM and conducted in an organized pattern to ensure all spaces are checked. Every space will be entered and marked off as clear from a checklist. Clearance of an area will be signed off by the search leader. Special consideration will be given to the operations at time off alert i.e. voids open, under deck work, abnormal projects, annual inspections work etc.

In any case, all spaces and voids must be eventually opened for clearance before the person is declared "Not on board"

9.8 Emergency Response Plan during Towing Operations

The tow boat Captain must provide position, weather forecast, and fuel consumption of the tug prior to towing. And transmit "security" message every hour. He also must:

- Check the weather condition and forecast for the expected rig move period. Rig move operation will commence only in an acceptable weather condition.
- The tow route indicating the geographical coordinates shall be clearly posted.
- Post all emergency services and phone numbers pertinent to the tow area in the Radio Room. Radio Operators will be briefed on the emergency contacts and procedures.
- The medical store shall be inventoried and stocked up to date prior to moving.
- The lifeboats and rescue boat shall be checked and the Abandon Ship drill carried out prior to moving.
- The pre-job meeting is required to plan and safely practice tow line breakage procedures prior to the tow. Adhere to rig operational procedures.

EQUIPMENT PREPARATIONS

- There must be a minimum of 2 Bridle sets made up to fish plates with tow lines ready to use.
- Ensure preparation of two large nylon braided ropes with thimble eyelets for emergency fastening to the bow clevis.
- Keep one spare tow line coiled at the bow for emergency. Wire rope cable size of 64 mm x 25 meters is required.
- Tools ready on the bow shall include:
  - Axe to cut the rope
  - Heaving lines

- Large crow bar or pry bar
- Large sledge hammer
- Cutting torch will be made ready

BRIDLE LINE BREAKAGE WHILE UNDER TOW

- If one bridle line breaks, retrieve with winch and replace with back-up.
- If complete bridle assembly breaks, tow boat is to pass close to bow (20 meters) and throw heaving line fixed to small winch line. Pass down the emergency line. If the weather permits, attempt to repair the bridle assembly.
- In bad weather, keep sea to stern and carry out line recovery procedure quickly and efficiently, as the rig will not hold position.

RIG ADRIFT

- If there is a towing failure or the tow boat stalls, closely monitor the depth, current direction, and any collision hazards as the vessel drifts.
- Organize look out watches.
- Transmit emergency messages and maintain open radio communication for support. Inform shore-base of condition, coordinates and drift.
- Notify all shipping in area.
- Request anchor handling vessel assistance.
- If rig drift or position presents a danger of collision with installations or grounding, drop anchor(s) as required to hold position. Anchor line length, water depth and potential obstructions must be closely scrutinized.
- If drift or position presents any danger of collision or grounding, full evacuation of personnel will be considered if required.

9.9 Bad weather

It becomes necessary to move the barge away from the platform while still being “connected” when wind reaches strong Force 5 (Wind ~21 knots). Distance from platform goes from 9m to 13m. Once the barge is in standby-connected, “lay down of setback” is still possible using the skyline at typical lay down speeds.
When the wind reaches Force 7 (Wind ~30 knots), the barge needs to go in Standby with disconnection. The Barge then shifts to 23m. At this point set back remove becomes more difficult but still feasible at reduced lay down rates.
The design of the mooring system does not require to “disengage” the barge from the mooring system.

10.0 EVACUATION OF THE ENERGEAN FORCE

In an emergency that is escalating and posing grave danger to personnel the OIM will decide on the necessity of rig abandonment or evacuation of non-essential or all personnel and determine how the evacuation shall be performed.
Whilst on location at the drilling platform and in case rig personnel cannot use the Personnel Access Ramp to the barge, evacuation to the platform via the bridge will be the secondary method of evacuation. Should this not be the case, the following will apply.

LIFEBOATS ARE PRIMARY METHOD OF EVACUATION.

Alternative ways to evacuate personnel will be considered depending on conditions such as weather, location and etc.

1. Lifeboat (Primary)
2. Standby boat/supply boat (Secondary)
3. Life Raft (Secondary)
4. Helicopter (Secondary)

On decision of Energean Force evacuation, the following Responsibilities and Actions will apply:

Evacuation by Lifeboat or Life Raft

- Sound the "Abandon ship" alarm. Initiate the evacuation by making a P.A. announcement stating:
  - Evacuation of the rig is required by lifeboat.
  - All rig personnel evacuate the rig via the PAR.
  - Specific mustering procedures and schedules.
- Notify the ECT of the decision.
- Ensure the rig Radio Operator has broadcast a "MAYDAY" signal and has notified the Standby vessel of actions pending.
- All personnel to put on warm clothing and lifejackets. Assemble at designated abandon ship station as per station bill instructions.
- Ensure that the crewmembers have been appointed to take emergency communication sets and beacons on board the lifeboats.
- The appointed Muster man for each lifeboat will perform muster and report to the OIM. Ensure that all personnel are accounted for. Order searches for missing personnel if necessary and safe to do so. Oversee operations and supervise loading.
- Ensure that essential rig documents are taken:
  - Log Book
  - Up-to Date POB list
  - Emergency Contact Phone numbers
- All personnel will be seated and strapped in. Lifeboat will be launched in a totally closed condition. Manoeuvre lifeboat to safe sea area and effect lifeboat maintenance and survival techniques. Open communications with other surface crafts. Inform the standby vessels of the number of lifeboats and life rafts launched.
- OIM to contact lifeboat # 2 and assist with accountability of persons evacuated. Lifeboat 1 is the lead lifeboat and shall coordinate-ordinate.

The life rafts are secondary to the lifeboats and would be deployed on decision by the OIM. The life rafts must be manually deployed from the deck. The life raft will remain attached to the rig by the painter line (25 meters). The rafts will also automatically deploy by the hydrostatic release if submerged at depth.

For communication take radio handset from the Radio room or take portable emergency radio from the lifeboats (installed at the first aid room).

Evacuation by Lifeboat or Life Raft Crew responsibility and action

OIM

Sound abandons rig alarm, instruct all personnel to don their BAs, direct Tool Pusher to secure the well, direct Barge Master to close all water tight doors and hatches, account for all personnel.

- Inform Rig Manager of decision and details including:
  - Evacuation list

  - Details of any casualties
  - Nature of the emergency
- Time permitting sends distress call “MAYDAY”.
- Inform other vessels and facilities in the area of abandon rig decision.
- If total evacuation, shut down all power and maintain emergency battery power to helicopter beacon.
- Take ship log.
- Proceed to lifeboat # 2.

Upon sounding of Abandon Rig Alarm, all personnel to proceed to lifeboat station don life jacket and board lifeboat.

Evacuation by Standby or Supply Vessel

Note: All evacuations by standby boat or supply vessel will be completed via the Energean Force Tender Assist Drilling Barge.

If the evaluation of the risks involved in the transfer of personnel to the standby / supply vessel will be discussed by the OIM with the Barge Master and the Crane Operator.
Transfer will be performed using the personnel transfer basket loaded under the supervision of the Barge Master.

Critical evaluation of the Standby vessels ability to manoeuvre is necessary before decision to evacuate by standby vessel is made. Any attendant supply vessel or anchor handling vessels will be used in preference to standby vessel.

- All personnel not assigned to a specific duty will be advised by P.A. broadcast throughout the rig. Will give details of the muster or "Safe Briefing Area".
- Control the evacuation using P.A. system, megaphone and hand-held radios.
- The designated Leader at the designated Safe Briefing Area will muster personnel and report to the Command Center.
- The Barge Master and the Crane Operator will prepare equipment required for the transfer.
- Groups will be constituted as per the station bill at the designated Safe Briefing Area by the Designated Leader and sent to the designated dispatch point on deck, on call from the OIM.
- Instructions will be passed to the team leaders by the OIM.

OIM

- Liaise with ECT to inform of evacuation decision.
- Liaise with Barge Master and Standby vessel captain for safety of people.
- Evaluate size of landing area for personnel transfer.
- Direct Senior Tool Pusher to secure the well.
- Direct Barge Master to close all water tight doors and hatches.
- Account for all personnel.
- Inform Rig Manager of decision and details as above.
- Inform shore base if the rig is to be totally evacuated.
- Shut down all power and maintain emergency battery power to helicopter beacon. Keep ship log book, current POB list, current IADC reports.
- Prepare plan for evacuation of last personnel to depart rig, Crane Operator and Assistant Crane Operator (should be evacuated by lifeboat).

DRILLING SUPERVISOR

- Inform base ECT of situation and decision to evacuate rig.
- Liaise with OIM and approve support vessel movements as necessary.
- Liaise with ECT regarding helicopter availability.

BARGE MASTER

- Liaise with OIM.
- Maintain communication with support vessels.

Helicopter Evacuation

This would generally be a less urgent situation where sufficient time period would be available for evacuation.

- Notify the ECT onshore of the decision.
- Initiate the evacuation by making a P.A. announcement stating:
  - Helicopter evacuation required, Location of mustering area, Specific mustering procedures and schedules. All non-assigned personnel will muster in the Recreation room
- The Recreation room Designated Leader will dispatch personnel as per seating availability on the helicopter.
- Control the evacuation using P.A. system, megaphone and hand-held radios as appropriate.
- Ensure all personnel are accounted for. Order searches for missing personnel if required.
- Liaise with Senior Tool Pusher and DSV to shut down operations.
- Ensure the essential rig documents are taken:
  - Log Book,
  - Up-to-date POB lists.
- Personnel will be lead to the Helideck and handed over to the HLO.
- On the Helideck, personnel will follow instructions of the HLO.

Helicopter Evacuation Crew Responsibility and Action

OIM

- Liaise with Drilling Supervisor and inform him of evacuation decision.
- Inform Radio Operator of evacuation decision.
- Depending on criticality of situation either sound general alarm for muster or inform department heads of decision and have them disseminate information to crewmembers.
- Prepare priority evacuation list. Confirm passenger numbers per flight. Post list outside radio room and in mess room.
- Direct Senior Tool Pusher to secure well.
- Direct Barge Master to close all water-tight doors and hatches.
- Account for all personnel.
- Inform Rig Manager of decision and details including:
  - Evacuation list with individual flight details.
  - Details of any casualties
  - Nature of the emergency
- Advise the standby vessel of situation
- Inform shore base if the rig is to be totally evacuated
- If total evacuation, shut down all power and maintain emergency battery power to helicopter beacon.

- If total evacuation takes: ship log book, current POB list, current IADC reports.

The order to abandon the Installation will be given by word of mouth from the OIM only. The use of scramble nets or rope ladders & ladders are only considered if primary and secondary methods are not in place. Jumping into the water from deck level should only be done as the last resource.

The chain of command will apply if the installation OIM is incapacitated or relieves his command to partake at the scene of an emergency.

If predetermined procedures are broken or complicated by events, the commander at any muster point will evaluate the situation and decide on action required. ANY DECISION must only be made after ALL contact systems are completed, lost or exhausted.

11.0 MEDICAL EVACUATION (MEDEVAC)

Medevac can be authorised by:

- Company Doctor
- OIM

Any question about authorisation must not delay the mobilisation of boat crews, support personnel and medical teams. In case of doubt, the Emergency Coordinator must be notified.

Unless otherwise instructed by responsible parties, a boat medevac will generally cater for a single stretcher case and involve:

- Request for an available boat from company fleet to transport victim to Kavala port
- Request for an ambulance from local Emergency Care Center to be ready at Kavala port side to transport victim to the Hospital
- The Rig Medic to provide all necessary first aid and accompany victim to the Hospital
- The Company Doctor to go to the Hospital and consult Energean Management about victim's condition

Information to be provided:

- Number (or estimate of) people that need (or may need) transport
- Scale and type of their injuries
- Any possibility of more than one stretcher case

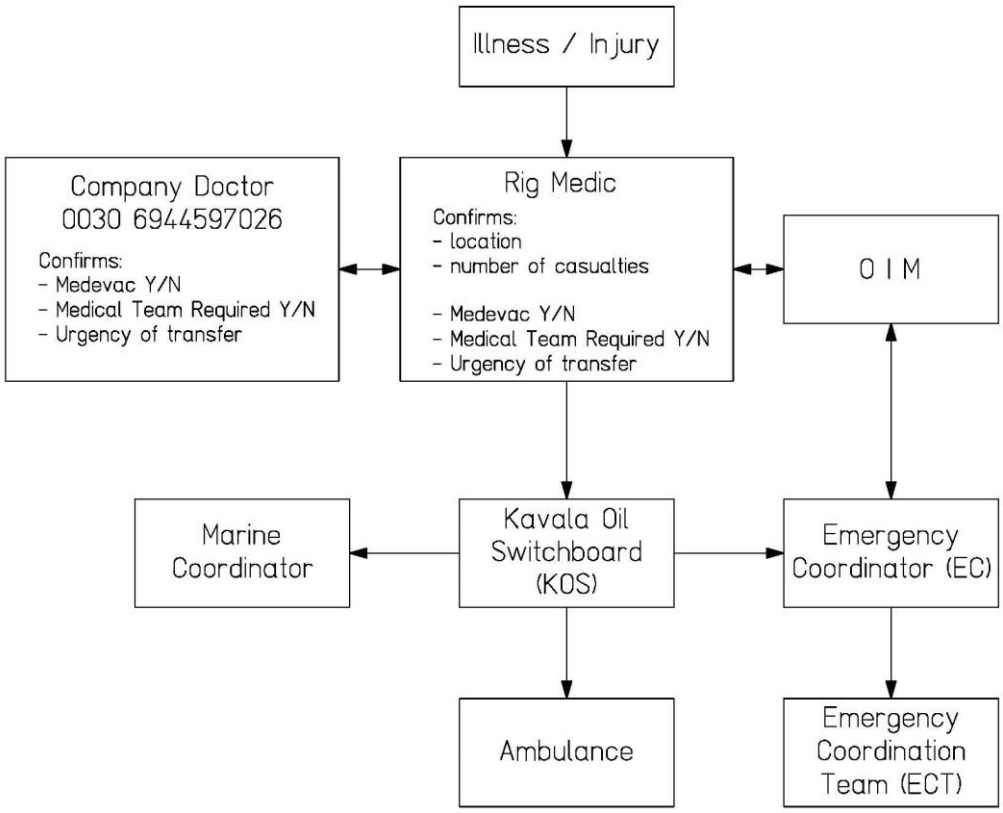
So that appropriate assistance is mobilised, a multiple Medevac may involve:

- Removal of extra seats to accommodate multiple stretchers
- Company Doctor to be ready at the port side and be part of the medical team
- More than one boats
- Air Support

11.1 Medevac NOT normally requiring Emergency Care Center (ECC) activation

A person is described as seriously ill / injured if there is a possibility that he may die, and a senior company representative can then authorise recovery of the patient from the rig.
Medevac is requested and authorised by Company Doctor in consultation with the Rig Medic and the OIM.
Notify the Emergency Coordinator, Line Supervisors that a Medevac is being conducted with associated details.

11.2 Medevac Procedure



12.0 PERSONNEL TRANSFER BY PERSONNEL TRANSFER BASKET

The majority of personnel transfers (both routine and emergency i.e. Medevac) to and from the Energean Force will be by boat, although is anticipated that in exceptional emergency circumstances personnel transfer may have to be conducted by air.

The preferred means of transfer to and from the boat will be by the personnel transfer basket. However, at times that the use of the personnel transfer basket is limited personnel could have access through Energean Force boat landing stairway or Delta platform after permission obtained from Delta Control Room.

In addition to the controls detailed within the relevant transfer procedure, it is a requirement that no loose items be taken on the Personnel Transfer Basket; with all luggage going on a separate transfer. This is in order to reduce the risks from dropped objects. A Personnel Transfer Basket Retrieval Plan will also require to be developed by the OIM and HSE Officer, detailing actions in the event of crane power failure during Personnel Transfer Basket transfers.

13.0 QUALITY MAINTENANCE

13.1 Procedure Maintenance

Responsibility for maintenance of this document rests jointly with:

- Rig Manager
- OIM
- HSE Manager

These personnel must liaise with the following to ensure consistency and compatibility with Emergency Response arrangements for the emergency response activities for which they are responsible:

- Drilling Manager: Well Engineering Emergency Procedures
- HSE Manager: Kavala Oil Emergency Response Procedures

13.2 Training and Competence Assurance

The general requirements of the Energean Force Emergency Response Procedure apply for the Prinos Development Project. In particular, all involved in the emergency organisation must be:

- Briefed on their roles
- Provided with an exercise in which to practice and test these roles
- Accepted (or Assessed) as Competent On Scene Commanders

13.3 Drills & Exercises

A number of exercises and drills will be conducted to confirm site personnel's familiarity with the basic alarm and mustering procedures. The Site Emergency Command Center (and the Emergency Command Structure described in this emergency plan) should be used for all exercises and drills.

Exercises and drills are intended to practice and test the emergency response preparedness with respect to Command and Control on the Site and Interfaces with Support Services.

Appendices

Appendix 1 Emergency Contact Numbers

This listing is included with the Drilling Program and includes contacts number;

Energean Force (EF) Routine Contact numbers: 210 8174 – (3 digit below extension)

Contact	EF Phone Number	Email
OIM	353	oim.force@energean.com
Drilling Supervisor	363	drilling.supervisor.force@energean.com
Senior Toolpusher	357	senior.toolpusher.force@energean.com
Toolpusher		toolpusher.force@energean.com
Chief Mechanic	354	chief.mechanic.force@energean.com
Campboss	362	campboss.force@energean.com
Chief Electrician	359	chief.electrician.force@energean.com
Barge Master	352	barge.master.force@energean.com
Crane Operator		crane.operator.force@energean.com
Medic	356	medic.force@energean.com
Maintenance Supervisor	358	maint.spv.force@energean.com
Maintenance		maintenance.force@energean.com
HSE Officer	364	hse.force@energean.com
Well-site Geologist		wsg.force@energean.com
Wellsite Engineer	363	wse.force@energean.com
Materials	360	materials.force@energean.com

Central incoming number: 350	24 h availability number (Radio Room / Hospital): 351
Public telephone booth on top deck: 361	Meeting room conference phone device: 370

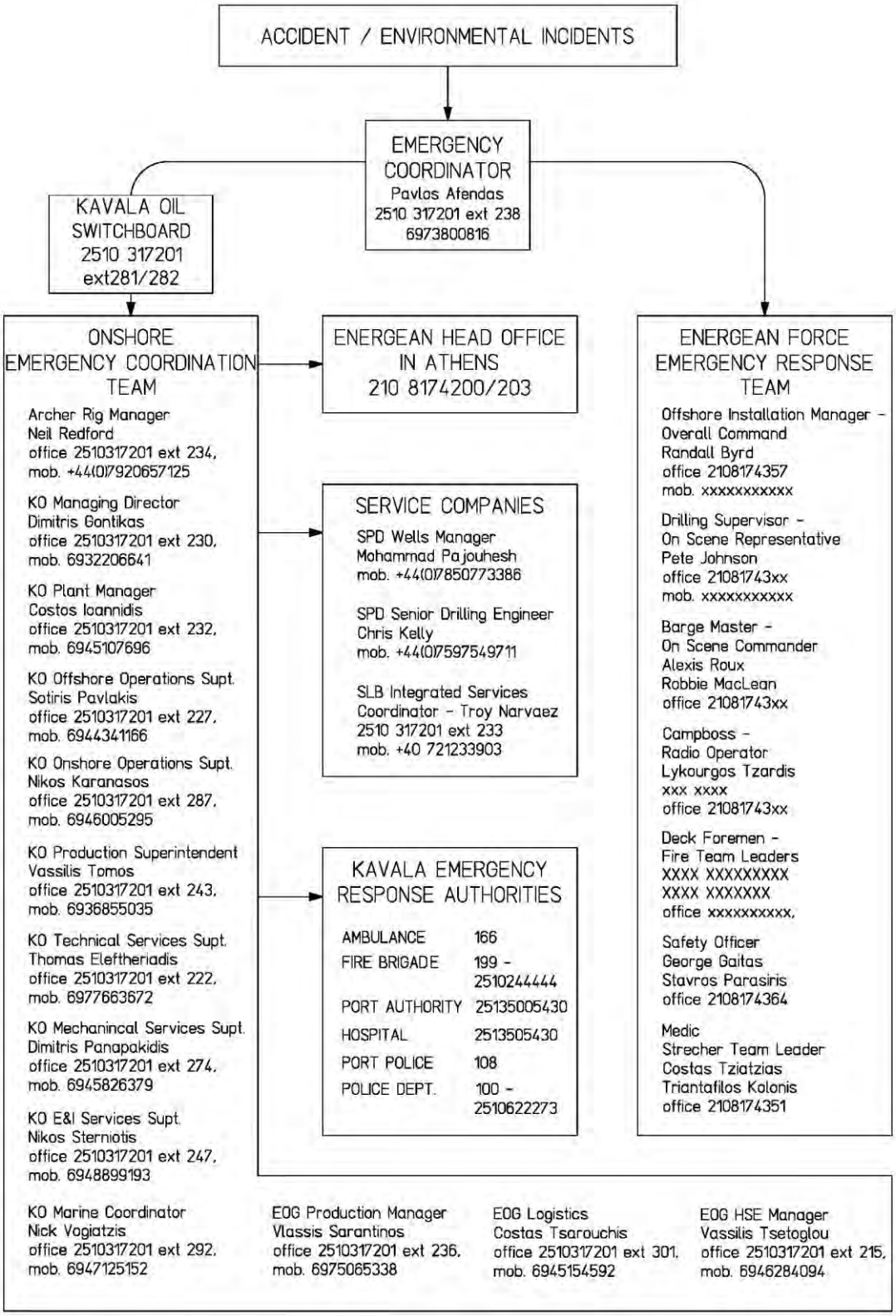
Emergency Support Services and Co-ordination Numbers

Name	Phone Number 2510317201 -	Fax	Mobile	e-mail
Emergency Coordinator Pavlos Afendras	– ext 238	2510317099	6973800816	pafendras@energean.com
Emergency Coordination Team Center	– ext 239/246	2510317204		
Kavala Oil Switchboard	– ext 281/282	2510316440		gate@kavalaoil.gr
Delta platform Control Room	– ext 101			deltaplt@kavalaoil.gr
Beta platform (in case of WOR existence)	– ext 108			betaplt@kavalaoil.gr
Alpha platform (in case of WOR existence)	– ext 107			alphaplt@kavalaoil.gr
Kavala Oil Marine Coordinator Nick Vogiatzis	– ext 292	2510316440	6947125152	nick.vogiatzis@kavalaoil.gr
Kavala Oil Emergency Phone Number	– ext 200			
Kavala City Authorities				
Ambulance Center	166			
Port Authority	2513505430	2513505453		kava@yen.gr
Port Police	108			
Fire Department	199		2510244444	
Hospital	2513501100			

Name	Phone Number	Fax	Mobile	e-mail
Energean Chairman & CEO Mathios Rigas	2108174288	2108174200	6945958990	mrigas@energean.com
Energean Technical Director Steve Moore	2108174250	2108174200	6970018856	smoore@energean.com
Well Delivery Manager Wolfgang Lehnert	2108174222	2108174200	6981297603	wlehnert@energean.com
Drilling Superintendent Pavlos Afendras	2108174216 2510317201 - ext 238	2510317099	6973800816	pafendras@energean.com
Energean Logistics Costas Tsarouchis	2510317201 – ext 301	2510316943	6945154592	ctsarouchis@energean.com
Energean HR Manager Angelos Mastrantonis	2108174214	2108174200	6994206000	amastrantonis@energean.com
Energean Production Manager Vlassis Sarantinos	2510317201 – ext 236	2510317099	6975065338	vsarantinos@energean.com
Energean HSE Manager Vassilis Tsetoglou	2510317201 – ext 215	2510317204	6946284094	vtsetoglou@energean.com
Energean Media Relations Sotiris Chiotakis	2108174242	2108174200	6932663877	schiotakis@energean.com
KO Managing Director Dimitris Gontikas	2510317201 – ext 230	2510317099	6932206641	dgontikas@energean.com
KO Plant Manager Costas Ioannidis	2510317201 – ext 232	2510317204	6945107696	costas.ioannidis@kavalaoil.gr
KO Production Superintendent Vassilis Tomos	2510317201 – ext 243	2510316943	6936855035	vassilis.tomos@kavalaoil.gr
KO Offshore Operations Supt. Sotiris Pavlakis	2510317201 – ext 102		6944341166	sotiris.pavlakis@kavalaoil.gr
KO Technical Services Supt. Thomas Eleftheriadis	2510317201 – ext 222	2510317204	6977663672	thomas.eleftheriadis@kavalaoil.gr
KO Offshore Operations Supv. Apostolos Papadopoulos	2510317201 – ext 109		6948084583	apostolis.papadopoulos@kavalaoil.gr
KO Safety Foreman Panagiotis Velkos	2510317201 – ext 221		6974889024	safety@kavalaoil.gr
KO Offshrore Safety Officer Antonis Antoniadis	2510317201 – ext 110		6937127285	
Energean Admin. Assistant Eva Kechagia	2510317201 – ext 214	2510317099	6948435871	ekechagia@energean.com

Name	Phone Number	Fax	Mobile	e-mail
Archer Rig Manager Neil Redford	2510317201 – ext 234	2510317099	+44(0) 7920657125	neil.redford@archerwell.com
Archer QHSE Advisor Andrew McHoul	2510317201 – ext 237	2510317099	+44(0) 7920653622	Andrew.McHoul@archerwell.com
Archer Onshore Maint. Engin. Paul Cave	2510317201 – ext 237	2510317099	+44(0) 7890994071	paul.cave@archerwell.com
SLB Integrated Services Coordinator – Troy Narvaez	2510317201 – ext 233		+40 721233903	tnarvaez@slb.com
M-I SWACO Project Manager Ovidiu-Ioan Orbean	2510834442		+40 740095295	oorbean@slb.com

Appendix 2 Emergency Response Personnel



Appendix 3 Station Bill / Alarm Status

ENERGEAN FORCE STATION BILL AND EMERGENCY RESPONSE

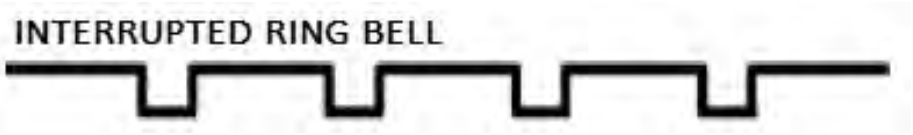
A Station bill / Alarm Status Notice have been formulated to communicate the more complex alarm arrangements in place for the Project.

Responsibilities:

- The OIM is the man in charge at this location and also the On-Scene-Commander (OSC) in the event of an emergency
- Please, refer to the OIM for any queries regarding safety and work related issues
- Drilling Supervisor communicates with Emergency Coordinator

Alarm Status

- *Fire Alarm*



  - STOP All WORK / HOT WORK, DON BREATHING APPARATUS (BA), SECURE EQUIPMENT AND PROCEED TO MUSTER STATION.

- *Abandon Rig Alarm*

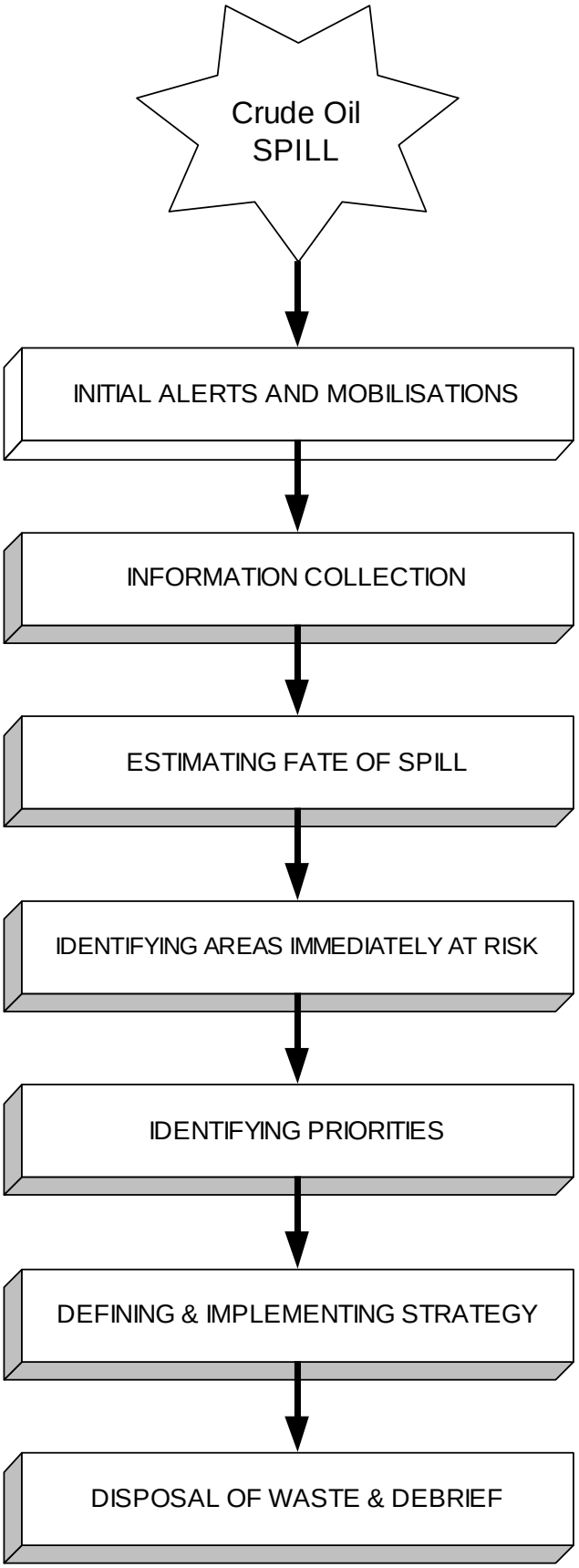
- *Gas Alarm*

  - STOP All WORK / HOT WORK, DON BREATHING APPARATUS (BA) AND MASK UP, SECURE EQUIPMENT AND PROCEED TO MUSTER STATION

Emergency Tasks:

- OIM will coordinate all activities during an emergency
- DSV will coordinate communications with ECT
- Well Control Team will stay on rig floor maintaining well control until further notice
- Fire Fighting Teams will assemble at Muster Point after Fire Alarm or Gas Alarm & Abandon Rig Alarm has been activated, prepare fire fighting equipment and await instructions
- Rescue Teams will assemble at Muster Point after Fire Alarm or Gas Alarm & Abandon Rig Alarm has been activated, prepare rescue equipments and await instructions
- Medic will stay in the rig sick bay ready to treat any casualties unless otherwise ordered
- Driller off duty and materials man will take head count at Muster Points
- ALL OTHER personnel, including visitors, shall assemble at the Muster Points and line up for a head count, if the Abandon Rig Alarm is activated

Appendix 4 Oil Spill Responses – Process



Appendix 5 Exercises / Emergency Drills

DRILL TYPE	FREQUENCY	AFFECTS	PURPOSE
Diverter	Prior to Tophole (& every 15 days)	Rig Floor Crew (All)	Check diverter operation / line-up heavy mud or seawater to pump / simulate deluge actuation / verify crew positioning duties and communications. - Time response.
Stripping	As per well conditions	Rig Floor Crew	Install safety valve/close Ann. BOP/strip 2-3 stands/ verify fluid volume changes/verify crew positioning duties and communications.
Well Control: Tripping	Every 15 days	Rig Floor Crew	Simulate kick/sound alarm/set pipe in slips/install safety valve/simulate Ann. BOP closure/simulate relevant permit shutdown/verify crew positioning duties and communications. - Time response.
Well Control: Drilling	Every 15 days	Rig Floor Crew	Simulate kick/position pipe/flow check/sound alarm/ simulate Ann. BOP closure/simulate relevant permit shutdown/open choke/verify crew positioning duties and communications. *Options: Line up degasser and prepare for hot mud/inform standby boat/muster NEP.* - Time response.
H_2S Operation	Every 15 days	Rig Floor Crew	Simulate H_2S kick or indication/secure well/crew prepare for H_2S operating/verify crew positioning duties and communications. - Time response.
Muster	Every 15 days	All Personnel	Sound alarm/muster - all Non-Essential Personnel at Muster Points and Emergency Teams at stations. - Time response.
Lifeboat Evacuation	Every 15 days	All Personnel	Simulate evacuation via lifeboat including instruction in use of equipment. - Time loading.
Alternative Evacuations	Every 4 weeks	All Personnel	Simulate evacuation via liferaft and secondary escape routes and mechanisms (e.g. basket transfer) using abandonment suits where required - include instruction on use of equipment. **NOTE: 30-50% POB should perform the whole drill.**
Firefighting	Every 15 days	Emergency Response Teams	Fire team(s) shall undertake various drill scenarios and fulfil associated training goals (specified in scenario list). - Time response of critical activities.
Breathing Apparatus	Every hitch	Emergency Response Teams	All persons likely to use BA in an emergency situation shall undertake training in this equipment. **NOTE: May be combined with other drills.**
Emergency Equipment	Every hitch	Emergency Response Teams	All persons likely to use rescue kit, etc. shall undertake training in combination with other drills.

DRILL TYPE	FREQUENCY	AFFECTS	PURPOSE
Casualty Handling	Every hitch	Medical Emergency Squad	The handling of casualties under the direction of the Medic shall be undertaken in combination with other drills.
First Aid (Triage)	Every hitch	Medical Emergency Squad (inc. First Aiders)	Triage training shall be combined with other drills or in accordance with specified drill scenarios.
Man Overboard	Every 2 weeks	Standby Vessel and Rig Personnel	Each rig crew shall undertake at least 6 drills per year and as soon as possible after each standby vessel crew change.
Standby & Emergency Service Vessel	Every hitch	All Vessel Crews	A series of training scenarios shall be undertaken to verify and reinforce the role of the SBV 'Standby Vessel'.
Operational Drills & Emergency Shutdowns	As Required	All Relevant Personnel	All emergency shutdowns should be tested in combination with other drills stated or separately in accordance with specific operational requirements.
Crime or Sabotage	As Required	Management Team	As appropriate and in conjunction with the relevant security authority (Police/Ministry of Defence) the scenarios defined and exercised by the onboard management team.
Disconnect & Move Off (SET Barge)	At each new location or at every 3 months	Marine & Drills Crews	OIM will co-ordinate a simulated unlatch and perform a controlled move-off excursion after setting anchors. - Time response.
Shipboard Oil Pollution Emergency Plan	Every 2 hitches	Deck Crew	All persons likely to use pollution control equipment and materials shall undertake training in application.

Combined drills could be undertaken.

Appendix 6 Energean Force Command & Control Board

ASSESS – PLAN – DELEGATE – COMMUNICATE – RE-ASSESS

MUSTER/POB

	ASSIGNED	ACTUAL	ABANDONED / MISSING
EMERGENCY TEAM			
MAIN FIRE TEAM			
RESCUE TEAM			
RIG FLOOR			
SCR ROOM			
WORKSHOP			
MUSTER POINT 1			
MUSTER POINT 2			
HOSPITAL			
VISITOR			
TOTAL			

ACCOMMODATION CLEAR

OFFICES	
MUD LAB.	
MESS HALL	

MISSING / INJURED

NO	NAME	DEPT	LOCATION	STATUS	MEDIVAC

ACTIVITY LOG

TIME	DESCRIPTION

SITE INFORMATION

GAS TO					
OIL TO					
RADIO CHANNELS	No				
RESCUE TEAMS					
FIRE TEAMS					
MEDIC					
TEAM BRIEFING TIMES					
TIME-OUT	#1	#2	#3	#4	
ECC					
PA					

SAFETY CHECKLIST
EMERGENCY TEAM COORDINATOR

CONTROLS	TIME	REMARKS

PLAN / TASK

SUPPORT

NAME	INFORMED	ETA	LOC.	REMARKS
PORT AUTHORITIES				
AMBULANCE				
PUBLIC HOSPITAL				
POLICE				
ENERGEAN SECURITY				
SBV				

Appendix 7 Multiple Casualty Logging Form

Location:					Date / Time:		
No.	Tag No.	Name and Employer (if known)	Location	Injuries	Field Care	Triage Priority	Transported
							By: To:
							By: To:
							By: To:
							By: To:
							By: To:
							By: To:
Medic/Doctor:							

Appendix 8 Emergency Response Checklists & Guidance

4.1 On-Scene-Commander (OSC)

Person:	OIM
Reports To:	Rig Manager in the ECT (although most communications from site to ECT are through DSV)
Emergency Station at Site:	Site Emergency Command Centre (Site-ECC)
Instructs:	Rig Floor Crew – via Driller Fire Team via Fire Team Leader Rescue Team via Rescue Team Leader Personnel - via Muster Controller Resources & Logistics - via On Scene Representative (DSV)
Information:	All information relevant to DSV decision making
Responsibilities:	Overall direction of emergency response on the facility Delegation of actions to the emergency team Reporting on situation and requirements to the ECT

On being alerted to an emergency, the ON SCENE COMMANDER will:	Done
• Register as "Muster" by reversing his 'T'-card and proceed to the Site Emergency Command Centre.	
• Receive reports on situation including i) What has happened; ii) Current well status; iii) Personnel known/suspected to be involved; iv) Notifications made so far	
• Consider other sources of information e.g. i) Observation; ii) Questioning	
• Confirm and/or initiate necessary immediate actions (Checklist).	
• Confirm securing of well being drilled / worked over and shutdown of any nearby production facilities	
• Confirm immediate notifications/mobilisations. Stand-by Vessel [SBV], HSE Dept., (Notify onshore contractor management and/or instruct to mobilise to the ECT)	
• Brief Command and Control Team, delegating required actions • On Scene Representative - Process Shutdowns - External Resource Requirements - External Alerts • Fire Team / Search Team Leaders - Fire and Search Team strategies • Muster Controller - Personnel management strategy • Security Team - inspection methods • Well control team - well control strategy	
• Assess Situation and decide "Plan of Action" including: – Process - Further shutdowns, depressurisations, off-site alerts – Safety of muster area / community - Use of alternative/more distant muster points; Need for area evacuation – Fire Team Response – Is it safe to intervene? – Logistics – Oil spill response, further fire fighting support. – Medical Support Needs - Medevac, Multiple Medevacs, Medical Teams – Security.	
• Advise on situation of personnel - via Data Logger for the Musters via the Emergency Team Co-ordinator for the Emergency Teams.	
• Alert (or get DSV to alert) Contractor Managers to situation and to go to ECC	

On an ongoing basis, the ON-SCENE-COMMANDER will:	
• Continuously review the situation, holding regular 'Time-outs to structure the 'Management of the Emergency': – Receive - Incoming information and updates from team members – Assess - Changes and developments on Threats and Action Plan – Plan - Decide appropriate actions – Delegate - Actions to team members – Communicate - Brief Team; Update personnel (via Data logger/Muster Coordinator)	

GUIDANCE FOR ON-SCENE-COMMANDER

Lead the Team

- The On-Scene-Commander is the person who leads the personnel on site through the emergency. At all times:
  - Ensure clear leadership of the team. Let all personnel know you are in command
  - REMAIN CALM - Actively manage stress & potential panic, both himself and others

Assess the Situation

- Gather information - Personal observation, Command and Control Board, Team reports.
- Ask questions to clarify and to fill gaps in information
- Assess the actual or potential threat to and from:
  - Process Situation under control? Are adjacent or nearby production facilities a threat?
  - Personnel: Is the muster point safe? Should personnel move to safer areas? Any persons hurt/trapped that can be safely rescued?
  - Logistics "What logistics are available? What can be mobilized?" Consider need for medical teams, oil spill response team, fire brigade, and security.

Define Plan of Action

- Identify and prioritise - Assign available resources - Identify resources required

Delegate Actions to Team Members

- OSR, Fire & Search Team Leaders, Medical Team, Night Well Site Supervisor / Driller

Communicate

- Hold regular time-outs to ensure Command Teams are fully appraised of situation and what is expected of them
- Seek clarification of information and feedback from delegated actions
- Instruct OSR to keep Emergency Coordination Team updated
- Ensure Emergency Team Co-ordinator maintains two-way communication with:
  - Fire & Rescue Teams
  - Emergency Services
  - Medical Staff

Re-Assess

Repeat the cycle: Assess - Plan - Delegate - Communicate - Re-assess and monitor Stress.

Manage People including Stress Levels

- Continuously monitor and manage the stress and potential panic levels in i) Himself; ii) Others in Emergency Team(s); iii) Personnel at muster stations

4.2 On-Scene-Representative (OSR)

Person:	Senior Site Representative (DSV)
Reports To:	OSC and Operations Advisor in the Emergency Coordination Team (ECT)
Emergency Station at:	Site Emergency Command Centre (Site-ECC)
Instructs: Information: Responsibilities:	Duty EC / Operations Advisor; Security team All external logistic and process information Coordination of process facilities shutdown and isolations Coordination of fire, security and land resources Reporting on situation and support requirements to the ECT

On being alerted to an emergency, the ON-SCENE-REPRESENTATIVE will:	Done
• Register as "Mustered" by reverting his 'T'-card and proceed to Site Emergency Command Centre.	
• Ascertain i) What has happened; ii) Current well status; iii) Personnel known/suspected to be involved; iv) Notifications made so far	
• Implement external alerts via EC	
• Instruct EC to activate Emergency Co-ordination Team;	
On an ongoing basis, the ON-SCENE-REPRESENTATIVE will:	
• Continuously monitor the situation, assist and advise the OSC on the status of: – Emergency Service mobilisations and progress – Port Authorities, Ambulances, Police – ECT Mobilisation – Production Process status from Delta platform Control Room – Logistic and other Support Options – Communications – Update Operations Advisor in ECT Update OSC on information's received from ECT	
• Assist OSC in monitoring stress and potential panic levels in i) Himself; ii) Others in Emergency Team(s); iii) Personnel at muster	
• Ensures a timely accurate log of events is maintained, follow-up on communications and instructions	

Guidance for On-Scene-Representative on Communication

Effective Initial Alerts are crucial to a successful response. OSR must ensure information and instructions to Emergency Coordinator (EC) are clear and include:

- Name, Position and Indicator
- Location - Facility (i.e. Energean Force), Well Location - well number and address
- Basic description of incident ensuring scale of it is understood
- Potential for casualties being clear if multiple casualties may be involved
- Requirements e.g. Fire Engines, Ambulances and Police

Once activated, regular updates should be provided to the ECT via the Operations Advisor / Drilling Supt:

- General status including whether emergency situation is under control or getting worse
- Information on Personnel Status, as it becomes available
- Any projected site evacuation
- Most Importantly - Further requirements at the site
- Be brief and keep to the point. Avoid discussing how and why it happened - The incident investigation can wait until later.

4.3 Data Logger

Person:	Camp Boss or other Designated Person
Emergency Station at Site:	At Command and Control Board in Site Emergency Command Centre (ECC)
Reports To:	(OSR) On Scene Representative
Instructs:	Mustered personnel via Muster Controller
Information:	All information relevant to OSC decision making
	Muster information received from Muster Controller
Responsibilities:	Logging events / information on the "Command and Control" Board Prompting considerations to On-Scene-Commander

On being alerted to an emergency, the LOGGER will:	Done
• Register as "Mustered" by reverting his 'T'-card and proceed to Site Emergency Command Centre.	
• Write up initial events and actions on the Command and Control Board 'Event Log'	
• Assist (OSR) On Scene Representative to: – Confirm "Shutdown/Equipment/Alert Checklist" items with relevant parties – Update Plan - Site of incident; wind direction	
On an ongoing basis, the LOGGER will:	
• Maintain a timely accurate event log with information – NOT recorded elsewhere on the board - as advised/learnt from other team members – With MINIMUM WORDS to aid clarity – Highlighting main points e.g. by ringing, underlining, using a different colour	
• Prompt OSC on Time Outs	
• Prompt OSR on calls to ECT. Pass radio to OSC so he can instruct Muster Controller on updating Musters	
• Update the OSC on "Plan of Action".	
• Alert the OSC regarding information relevant to the 'Plan of Action'	

4.4 Fire Team Leader

Person:	Deck Foremen on and off duty
Emergency Station at Site:	Outside the Site Emergency Command Centres (Site-ECC)
Reports To:	Direct to OSC (ON-SCENE-COMMANDER)
Instructs:	Fire Team Medic - On site first aid assistance requirements
Information:	Fire team status / progress / findings Well control and Production process status - as observed
Responsibilities:	Co-ordinating fire fighting and protection efforts To provide guiding external help around site

The FIRE TEAM LEADER will:	Done
• Register as "Mustered" by reverting his 'T'-card and proceed to the Site Emergency Command Centre.	
• Report to OSC (ON-SCENE-COMMANDER). Collect radio. Report head count of fire team including any persons missing.	
• Receive briefing on situation and instructions from OCS	
• If instructed, and as far as it is safe to do so, lead and instruct Fire Team(s) in: – Approaching the site, or searching the site keeping at safe distance – Watching for injured or trapped personnel – Reporting back to OSC – Search safe area; – Actions to prevent escalation (e.g. water spaying, cooling, manual isolations); – Rescue of personnel from affected area (when safe)	

Fire Team Management

The Fire Team has received training to enable it to conduct the below listed activities:

- Fighting domestic (e.g. accommodation, engines, stores etc.) fires
- Fighting small hydrocarbon fires
- Isolating process equipment and lines
- Minimising escalations (e.g. water spraying and cooling of adjacent pipe work; foaming a spill)
- Rescuing personnel

The fire teams will only be allowed to enter into a situation if the On Scene Commander considers:

- It is relatively SAFE TO DO SO and there is:
  - NO SIGNIFICANT RISK OF ESCALATION / REOCURRANCE
  - MINIMAL residual risk (where a situation appears under control)
  - Where it is known (or suspected) that there are people injured

4.5 Search & Rescue (SAR) Team Leader

Person:	Chief Electrician
Emergency Station at Site:	Outside Site Emergency Command Centres (Site-ECC)
Reports To:	Direct to OSC
Instructs:	Search & Rescue Teams
Information:	Rescue Team status / progress / findings Well control and Production process status - as observed
Responsibilities:	Co-ordinating search and rescue efforts - in safe areas

The SEARCH & RECUSE TEAM LEADER will:	Done
• Register as "Mustered" by reverting his 'T'-card and proceed to the Site Emergency Command Centre	
• Report to OSC (ON-SCENE-COMMANDER). Collect radio. Report head count of fire team including any persons missing.	
• Receive briefing on situation and instructions from OSC	
• If instructed, and as far as it is safe to do so, lead and instruct Rescue Team(s) in: – Conducting check on living quarters for missing personnel – Searching safe areas for missing personnel – Stabilizing injured personnel for further transporting – Stretch ring / Helping casualties to Casualty Control Centre	

Rescue Team Management

The Rescue Team will only be allowed to enter into a situation if the On Scene Commander considers:

- It is relatively SAFE TO DO SO and there is:
  - NO SIGNIFICANT RISK OF ESCALATION/REOCURRANCE
  - MINIMAL residual risk (where a situation appears under control)
  - Where it is known (or suspected) that there are people injured

4.6 Muster Checker

Person:	Driller off duty, Materials man or other Designated Person
Location:	At head of Muster Point
Reports To:	Data Logger
Instructs:	Muster Personnel
Information:	Headcount, Casualty & Missing Persons Status
Responsibilities:	Collection of data of personnel status information from all parties at site Report on how many people are missing and where they might be Relaying information/instructions between C&C Team & Muster Stations

On hearing the General Alarm the MUSTER CONTROLLER will:	Done
• Register as "Mustered" by reverting his 'T'-card and proceed to Site Emergency Command Centre	
• Collect Radio and Megaphone from Emergency Command Centre.	
• Proceed to Security Hut - Use Log Book for recording results of Muster Check	
• Note number of personnel on Site as indicated on Security Hut Whiteboard	
• Identify and note number and owner of 'T-cards' remaining (i.e. as missing persons)	
• Take Log Book to Muster Station and check off visitors - Identify any personnel missing	
• Take an overall head count and compare to the number indicated in the Security Hut	
• Report head count, number of missing personnel to Data Logger	
On an ongoing basis, the MUSTER CONTROLLER will:	
• Update Muster Status as people are found, move around or accounted for in as injured. • Update OSC (ON-SCENE-COMMANDER) as necessary.	
• Pass information to mustered personnel as instructed by On-Scene-Commander (who will borrow Data Loggers radio to instruct Muster Controller accordingly)	

Muster Status

Muster Reports should clearly indicate:

- Number of people that <u>should</u> be present
- Number of people that are <u>actually</u> present (N.B. Actually present means physically at the muster site)
- Identification information on missing persons
- Name, Indicator, Company - for visitors

4.7 Medic

Person:	Medic
Location at Site:	Inside and around Rig Site Clinic
Reports To:	On-Scene-Commander Doctor - who, upon his arrival will take over command of medical management in consultation with Medic
Instructs:	First Aiders - On site first aid assistance Medic Admin - to collate information for passing on to OSC
Information:	Number and Status of Casualties Progress of medical response, Destination of casualties
Responsibilities:	Management of Casualties - Triage style for multiple casualties Preparation for evacuating; Treatment and stabilisation of injured personnel

The MEDIC will:	Done
• Register as "Mustered" by reverting his 'T'-card and proceed to the Site Emergency Command Centre	
• Establish communication with OSC • Receive initial report on reason for alarm, and number and status of any possible casualties	
• Ascertain scale and type of medical casualties that may arise. Confirm appropriate information relayed to OSC and/or Health Centre	
• Alert Health Centre, as authorised by OSC (On-Scene-Commander) or "if" obvious to do so, advise scale and type of casualties that may arise.	
• Instruct / Supervise Medic Admin Assistant on collation / recording of information for On-Scene-Commander	
Upon arrival of Medical Emergency Services, THE MEDIC will:	
• Advise OSC / OSR of arrival	
• Brief Company Doctor on general situation	
• Guide Company Doctor through casualties assessed and suggested action	
• Assist Doctor as directed in the ongoing management of the casualties, ensuring OSC is kept updated on all departing ambulances with names and destination of patients.	
• Guide Doctor through casualties assessed and suggested action	

Medical Team Management

Multiple Casualty Management

Report the head count and names of any missing persons from the fire team to the Muster Controller. Report any injured persons found, personnel trapped to the Muster Controller.

4.8 Medic's Admin Assistant

Person:	Designated Person from off duty Drill Crew
Emergency Station:	Inside and around Rig Site Clinic
Reports To:	Medic
Instructs:	n/a
Information:	Number & Status of Casualties Progress of medical response, Destination of casualties
Responsibilities:	Collation and relaying of information on Casualties

The Medic's ADMIN ASSISTANT will:	Done
• Register as "Mustered" by reverting his 'T'-card and proceed to the Site Emergency Command Centre	
• Report to Medic	
• Assist in preparations for receiving casualties	
For a Multiple Casualty Situation the Medic's ADMIN ASSISTANT will:	
• Start completing log sheet (Appendix 7)	
• Tag arriving casualties with a Triage tag, numbering these sequentially (1, 2, 3)	
• For each casualty note on the Casualty Log sheet – Casualty Number - must tally with Triage Tag – Name if known (or any indication of identity e.g. employer) – Type and scale of injury (as advised by Medic) – Triage Priority (as advised by Medic) - to tally with Triage Tag	
• As Ambulances arrive, assist Medic in briefing arriving Medic / Doctor i.e. by being available with Casualty Log	
• As casualties are carried into ambulances and ambulances leave, note the number of the ambulance, its destination and its time of leaving against each of the casualties it carries	
• Periodically pass Casualty Checklists to On-Scene-Representative so he can relay information to Emergency Co-ordination Team.	

GUIDANCE - MULTIPLE CASUALTIES - MEDIC

Preparation:

- Set up / Delegate setting up of Casualty Control Centre (Outside Clinic)
- Ensure full use is made of available First Aiders ensuring briefings to:
  - Assist in Casualty Retrieval, in support of the Rescue (Fire) Team
  - Casualty care in the Casualty Control Centre
  - Check evacuation and resuscitation equipment

Whether mobilised to site of incident or receiving casualties at a Casualty Control Centre:

- Perform a 'walk through survey', Count the patients, estimate the injured
- Identify and communicate to OSC (ON-SCENE-COMMANDER) the resources needed and any staging area(s) for evacuation.
- Request trauma team from Health Center if a difficult or prolonged response is expected.
- Triage the wounded quickly against START principles (max. 60 seconds per casualty):
  - Green: Delayed Priority
  - Yellow: Second Priority Evacuation
  - Red: First Priority Evacuation
  - Black: Confirmed or Suspected Fatality

  Red tag for any vital sign unstable: RR>30or<10; Pulse>120; Confused/ unconscious
- Stabilise critical injuries; direct first Aider on care of less critical injuries.
- Don't spend too much time treating casualties who are severely/fatally injured
- Saving life takes precedence over saving limbs
- If at site, direct the removal of casualties to the Clinic/Casualty Control Centre - Walking, accompanied by Fire Team/First Aider; Stretcher cases by stretcher-bearers.
- Ensure all casualties are accounted for and reported to Muster Controller
- Maintain full record of casualties: identification, triage priority, vital signs and treatment.

On evacuations:

- Ensure evacuees accompanied by First Aider, if possible.

On Arrival of Medic/Doctor:

- Brief the Medic/Doctor fully. He takes command of the Medical Management response
- Continue to assist Medic/Doctor and direct Complex First Aider
- Maintain liaison between Medic/Doctor/Trauma Team and Complex Emergency Personnel

Medic/Doctor will:

- Review all red/green triage casualties to administer any further life saving resuscitation and priorities evacuation
- Assess all the yellow tag 'walking wounded' casualties
- Liaise with Kavala Hospital

Appendix 9 Energean Force Emergency Response Team Listing

EMERGENCY RESPONSE TEAM

EMERGENCY COMMAND (Radio)	MAINTENANCE Switchgear
• Offshore Installation Manager (OIM) • Radio operator	• Chief Mechanic Maintenance Superv. • Chief Electrician

EMERGENCY RESPONSE TEAMS

On scene Commander: Barge Master

ATTACK TEAM (Firebox No 1)

(Deck Crew On Duty)

On scene commander: HSE Officer

Team Leader: Deck For eman

Team Members:

- Roustabout (x3)

Team Support:

- Motorman (on duty)
- Mechanic (on duty)

BACK UP TEAM (Firebox No 2)

(Deck Crew Off Duty)

On scene commander: Assistant Ba rge Master

Team Leader: Deck Foreman

Team Members:

- Roustabout (x3)

Team Support:

- Motorman (off duty)
- Mechanic (offduty)

FAST RECUE CRAFT TEAM

COXSWAIN: Assistant Barge Master

ASSISTANT: Chief Mechanic

FIRST AIDER: Deck Leader (on duty)

DAVIT OPERATOR:

- Chief Electrician
- Barge Master

FIRST AID / STRETCHER TEAM

LEADER: Medic

ASSISTANT: Assistant Driller (off duty)

STRETCHER TEAM:

- Floormen (off duty)
- Derrickm an (off duty)

LIFEBOAT CREW MEMBERS

LIFEBOAT N °1 (FORWARD) – Upper Deck

ALTERNATE
LIFERAFT STATION (AFT) – Upper Deck

COXSWAIN: Chief Mechanic

ASSISTANT / MUSTER CHECKER: Driller (Off Duty)

LIFEBOAT N °2 (AFT) – Upper Deck

ALTERNATE
LIFERAFT STATION (FORWARD) – Upper Deck

COXSWAIN: Assistant Barge Master

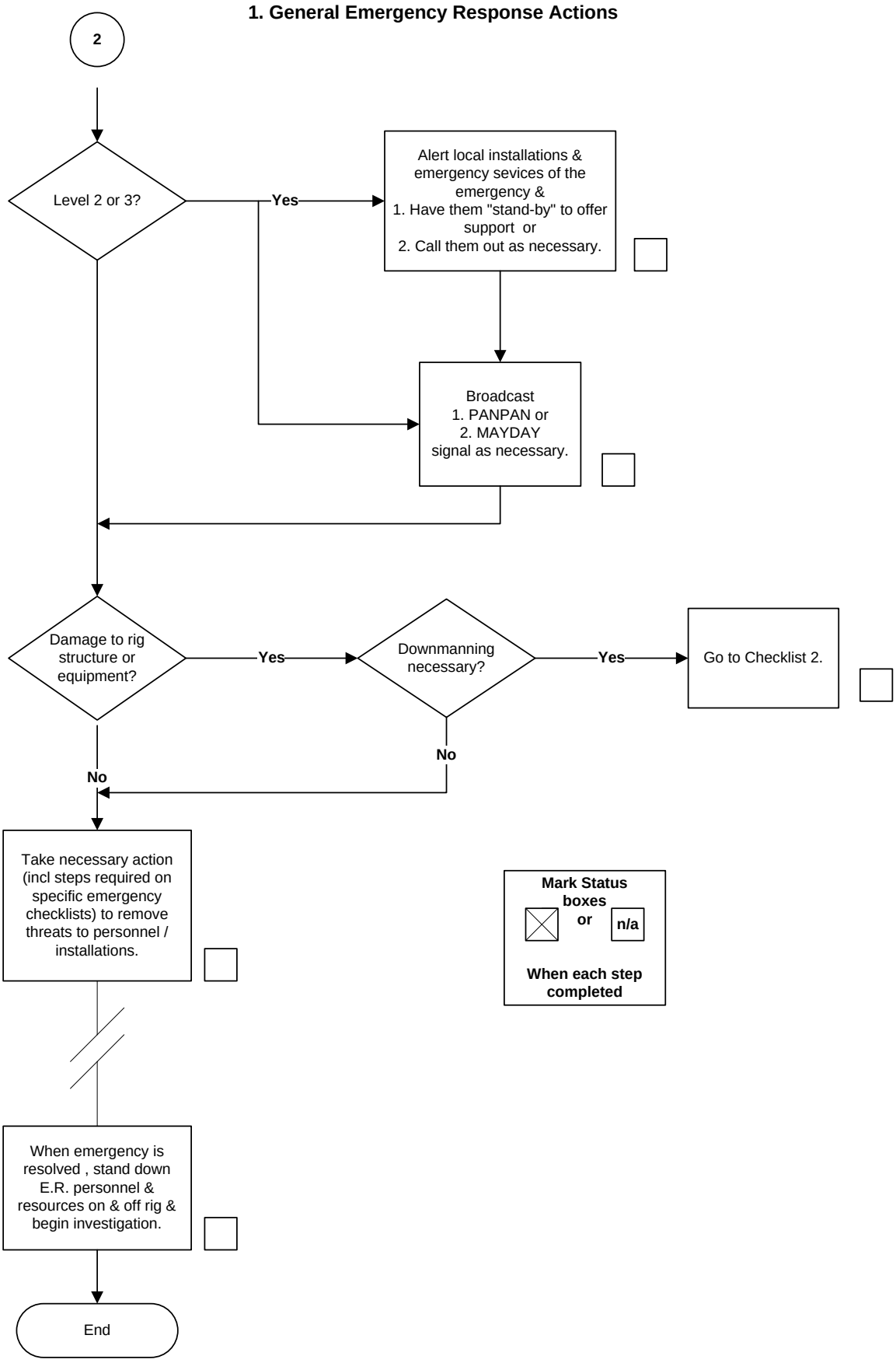
ASSISTANT / MUSTER CHECKER: Material Man

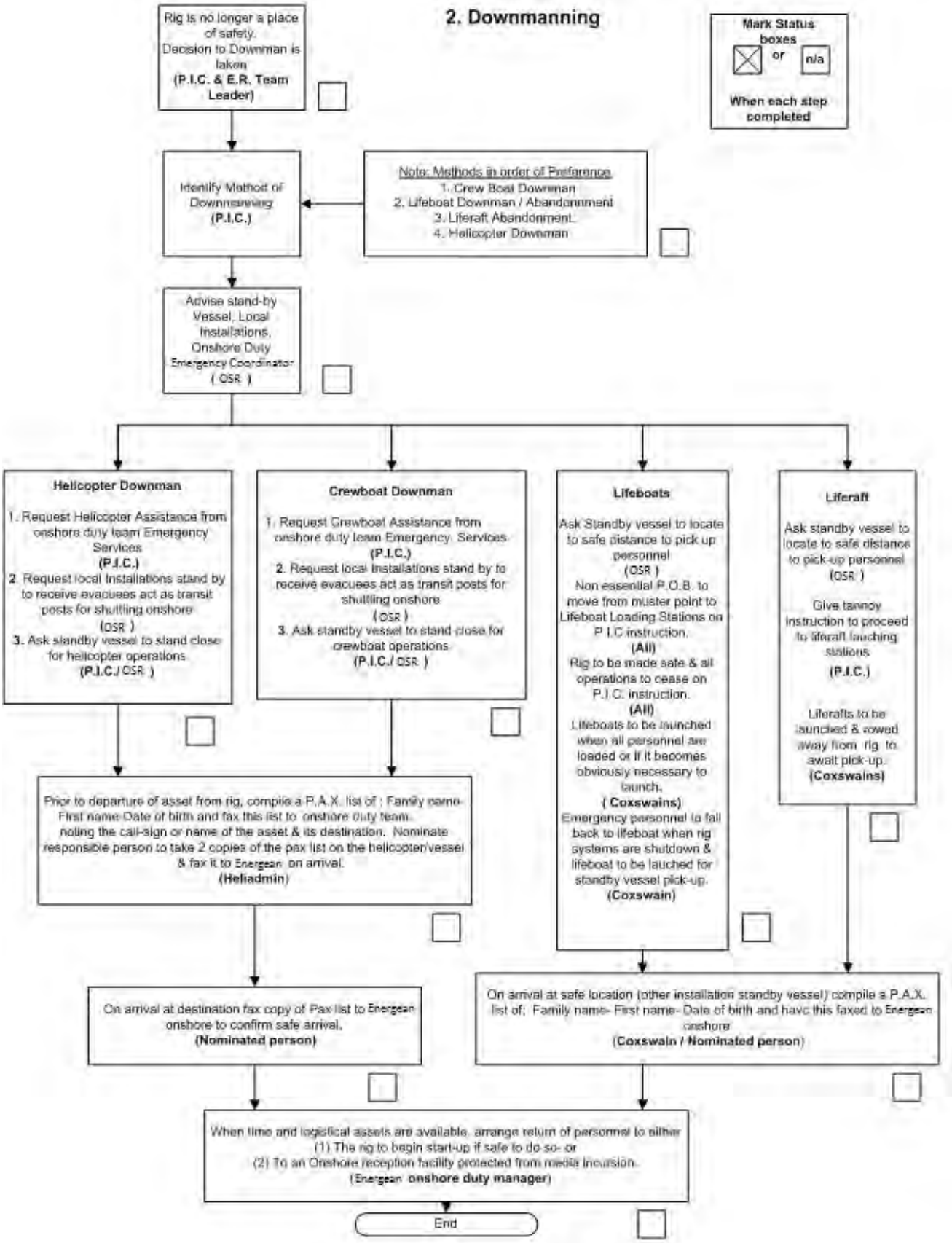
Appendix 10 Energean Force Station Bill

Muster point	Position	Assignment	Abandonment Lifeboat
Command Center	OIM	On Scene Commander	1 (Alt2)
	Tool pusher (off duty)	Assistance to OIM	1 (Alt2)
	Radio Operators	Communications	4 (Alt3)
	HSE Officer	Assistance to OIM	4 (Alt3)
	Company Man (day DSV)	Assistance to OIM	4 (Alt3)
Drill Floor	Tool pusher (on duty)	Secure the well	1 (Alt2)
	Driller (on duty)	Secure the well	1 (Alt2)
	Assistant Driller (on duty)	Secure the well	1 (Alt2)
	Drill Crew (on duty)	Secure the well	4 (Alt3)
	Company Man (night DVS)	Assistant to tool pusher	4 (Alt3)
On scene	Barge Master	Assistance to OIM	1 (Alt2)
	Assistant Barge Master	Prepare lifeboat and davit #4 / M.O.B team Leader	4 (Alt3)
Lifeboats #1	Driller (off duty)	Muster check	1 (Alt2)
	Assistant Driller (off duty)	Prepare davit and lifeboat #1	1 (Alt2)
Lifeboats #4	Mechanic (off duty)	Prepare davit and #4	4 (Alt3)
	Materials man	Muster checker	4 (Alt3)
Fire Locker #1	Deck Foreman (on duty)	Fire (search and rescue) Leader #1 / M.O.B rescue team	1 (Alt2)
	Deck crew (on-duty)	Fire (search and rescue) team #1 / M.O.B rescue team	1 (Alt2)
Fire Locker #2	Deck Foreman (off-duty)	Fire (search and rescue) Leader #2 / Painter stretcher team	1 (Alt2)
	Deck Crew (off-duty)	Fire (search and rescue) team #2 / Painter stretcher team	1 (Alt2)
SCR Room	Chief Mechanic	Technical Assistance	4 (Alt3)
	Chief Electrician	Technical Assistance	4 (Alt3)

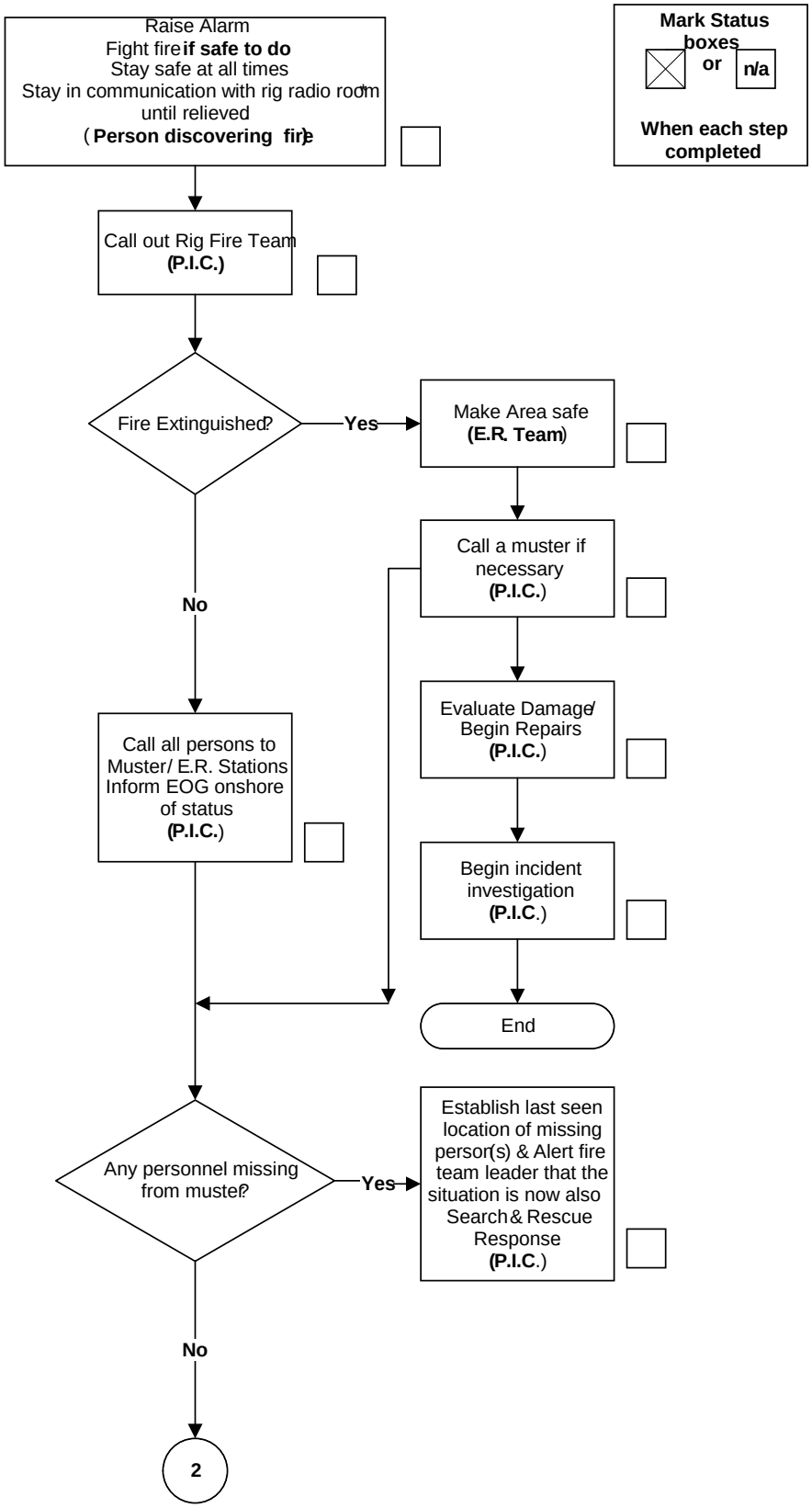
	Electrician	Technical Assistance	4 (Alt3)
	Welder	Standby for instructions	1 (Alt2)
Ballast Pump Room	Motormen	Technical Assistance	1 (Alt2)
Hospital	Medic	Standby for instructions/ stretcher team leader	4 (Alt3)
	Drill Crew (off-duty)	First aid and stretcher party	4 (Alt3)
Muster	Maintenance Supervisor	Prepare lifeboat and davit #1	1 (Alt2)
	Crane Operator (on duty)	Prepare lifeboat and davit #4	4 (Alt3)
	Crane Operator (off-duty)	Prepare lifeboat and davit #1	1 (Alt2)
	Camp Boss	Clear accommodation & inform OIM / Data logger	4 (Alt3)
	Catering Crew	Secure galley & chief steward Stretcher team	As Instructed
	All Others	Standby for instructions	As instructed

Appendix 11 Procedures

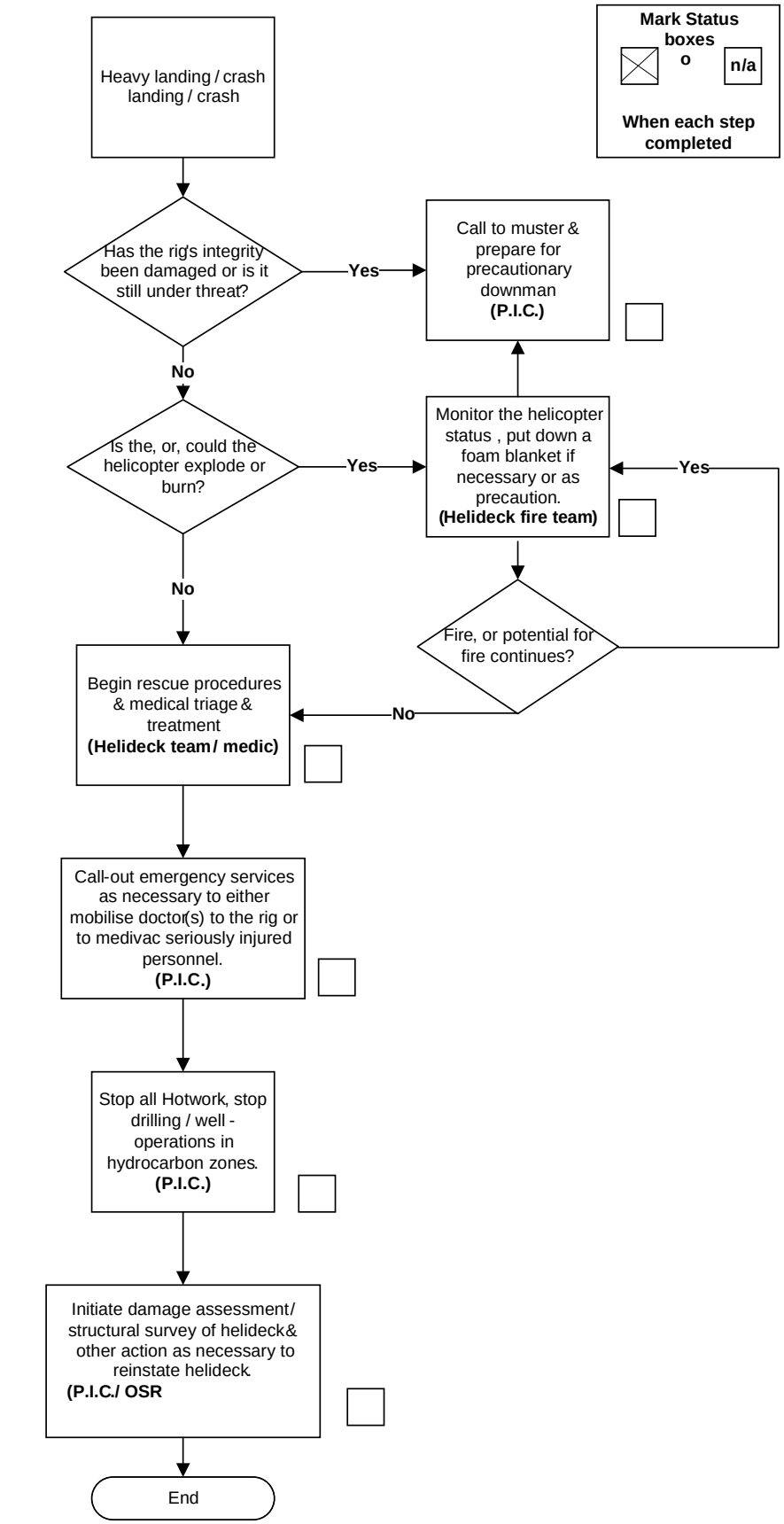



2. Downmanning
Rig is no longer a place of safety. Decision to Downman is taken (P.I.C. & E.R. Team Leader)
Mark Status boxes
or
n/a
When each step completed
Identify Method of Downmanning (P.I.C.)
Note: Methods in order of Preference
1. Crew Boat Downman
2. Lifeboat Downman / Abandonment
3. Liferaft Abandonment.
4. Helicopter Downman
Advise stand-by Vessel, Local Installations, Onshore Duty Emergency Coordinator (OSR)
Helicopter Downman
1. Request Helicopter Assistance from onshore duty team Emergency Services (P.I.C.)
2. Request local Installations stand by to receive evacuees act as transit posts for shuttling onshore (OSR)
3. Ask standby vessel to stand close for helicopter operations (P.I.C./ OSR)
Crewboat Downman
1. Request Crewboat Assistance from onshore duty team Emergency Services (P.I.C.)
2. Request local Installations stand by to receive evacuees act as transit posts for shuttling onshore (OSR)
3. Ask standby vessel to stand close for crewboat operations (P.I.C./ OSR)
Lifeboats
Ask Standby vessel to locate to safe distance to pick up personnel (OSR)
Non essential P.O.B. to move from muster point to Lifeboat Loading Stations on P.I.C instruction. (All)
Rig to be made safe & all operations to cease on P.I.C. instruction. (All)
Lifeboats to be launched when all personnel are loaded or if it becomes obviously necessary to launch. (Coxswains)
Emergency personnel to fall back to lifeboat when rig systems are shutdown & lifeboat to be lauched for standby vessel pick-up. (Coxswain)
Liferaft
Ask standby vessel to locate to safe distance to pick-up personnel (OSR)
Give tannoy instruction to proceed to liferaft lauching stations (P.I.C.)
Liferafts to be launched & rowed away from rig to await pick-up. (Coxswains)
Prior to departure of asset from rig, compile a P.A.X. list of ; Family name- First name-Date of birth and fax this list to onshore duty team. noting the call-sign or name of the asset & its destination. Nominate responsible person to take 2 copies of the pax list on the helicopter/vessel & fax it to Energean on arrival. (Heliadmin)
On arrival at destination fax copy of Pax list to Energean onshore to confirm safe arrival. (Nominated person)
On arrival at safe location (other installation standby vessel) compile a P.A.X. list of; Family name- First name- Date of birth and have this faxed to Energean onshore (Coxswain / Nominated person)
When time and logistical assets are available, arrange return of personnel to either (1) The rig to begin start-up if safe to do so- or (2) To an Onshore reception facility protected from media incursion. (Energean onshore duty manager)
End

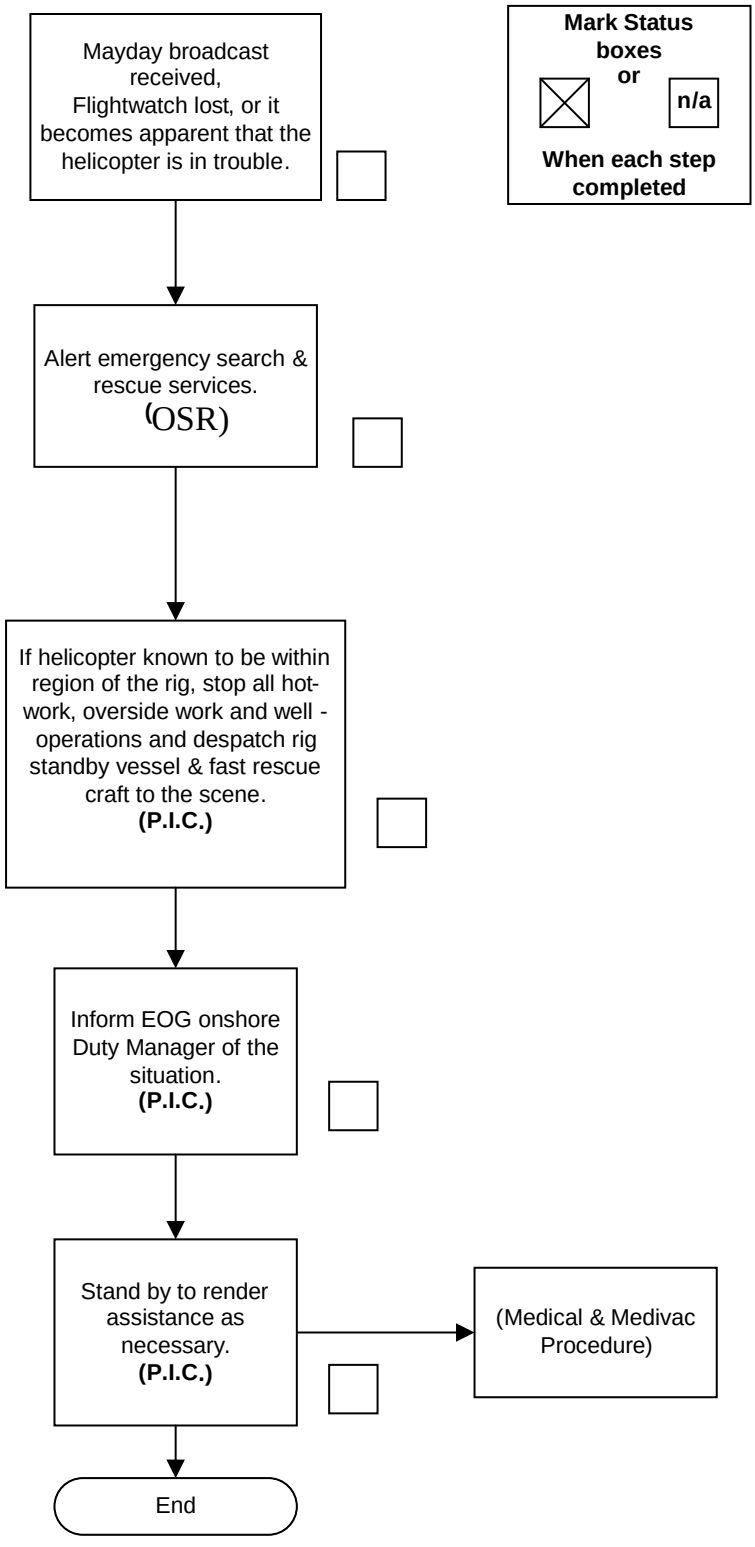
3. Fire & Explosion



4. Helicopter Emergency - Onboard Rig



5. Helicopter Emergency Off Rig



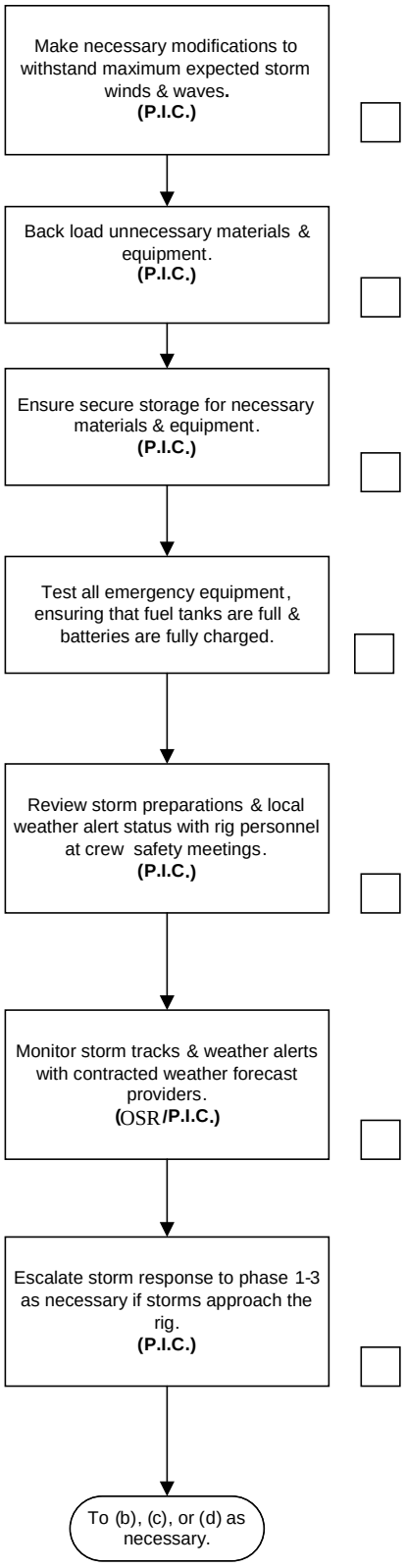
6.SEVERE STORM WEATHER

a. Prepare for Storm Weather- Phase 0

Mark Status

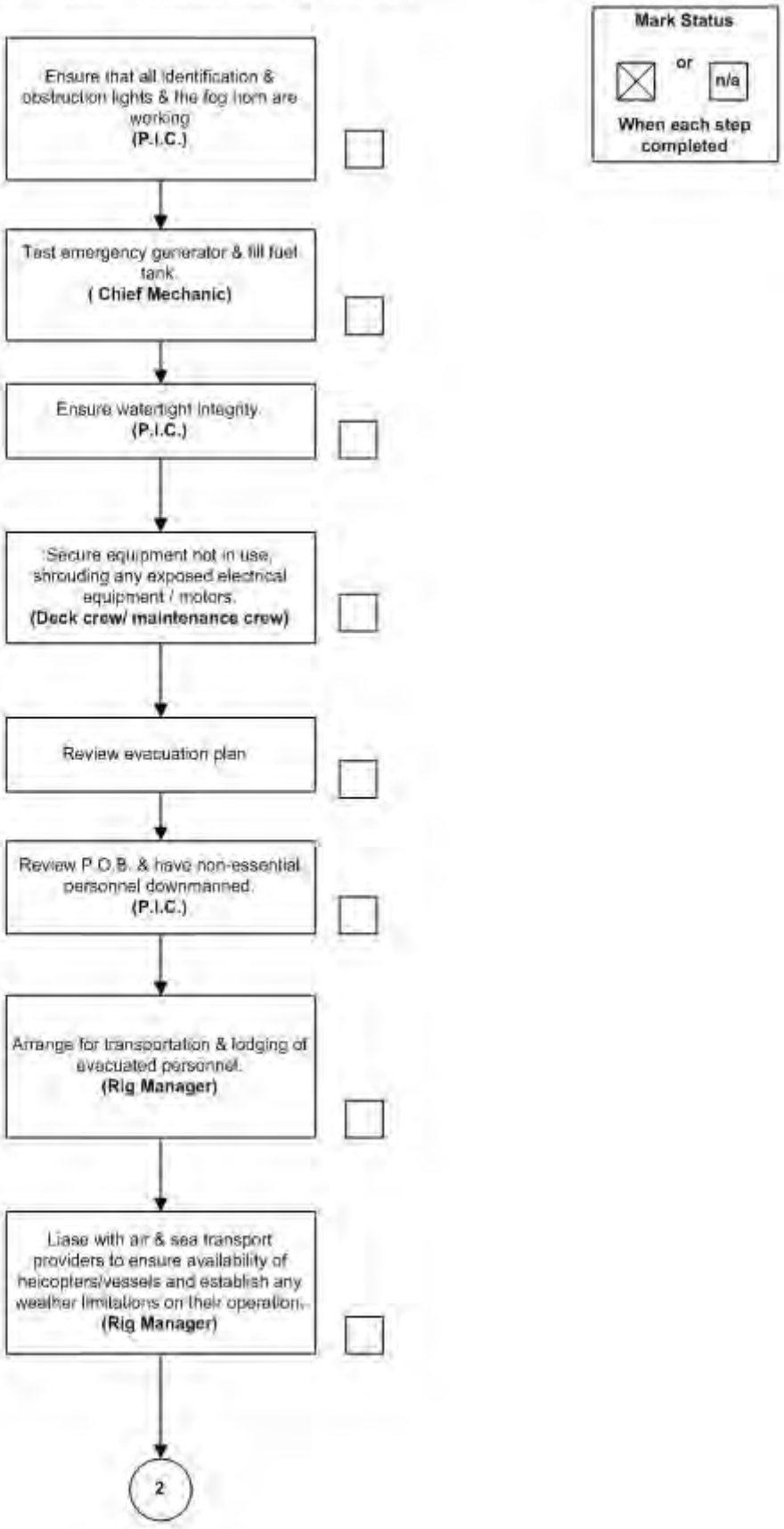
☒ o n/a

When each step completed



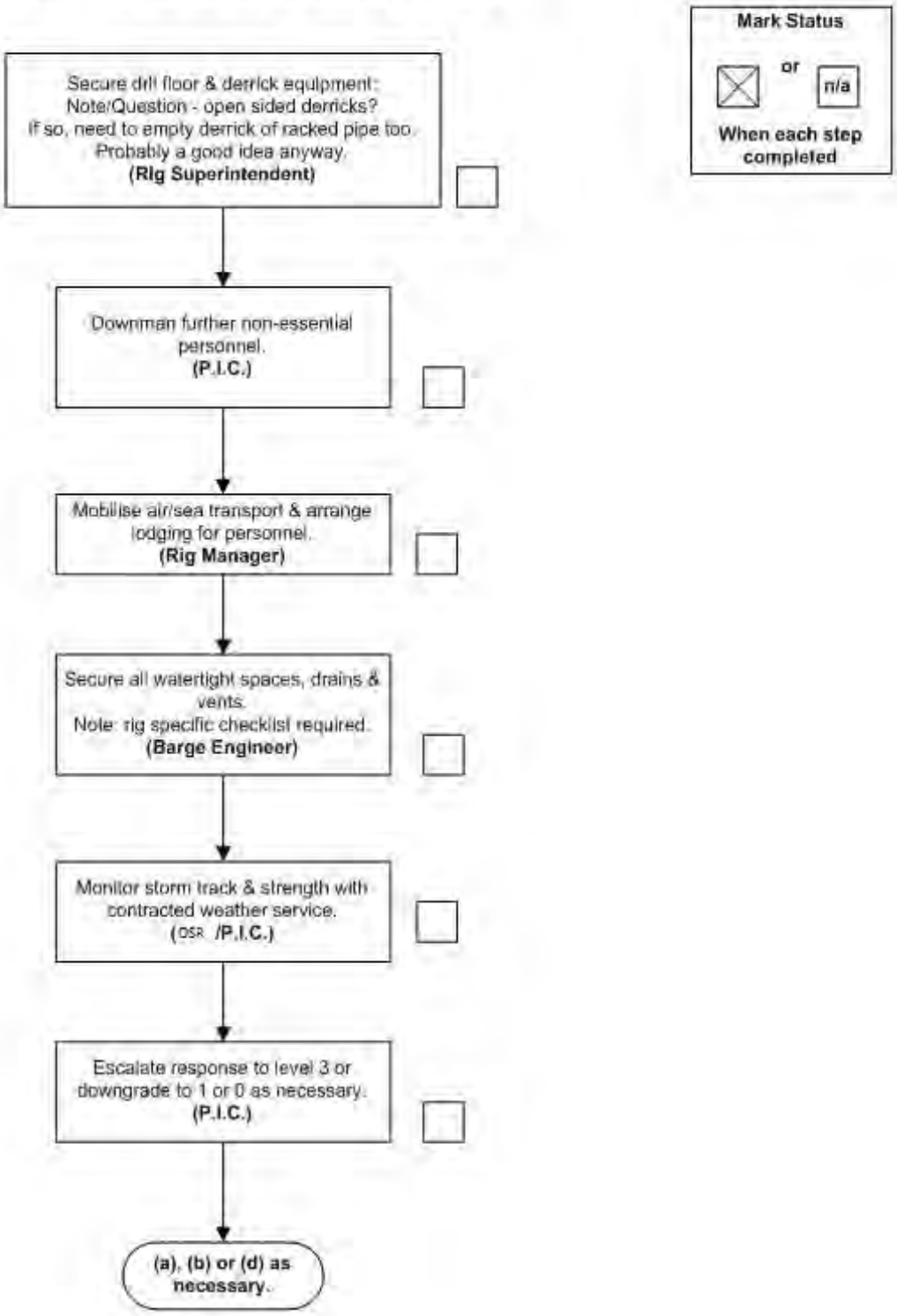
SEVERE STORM / WEATHER

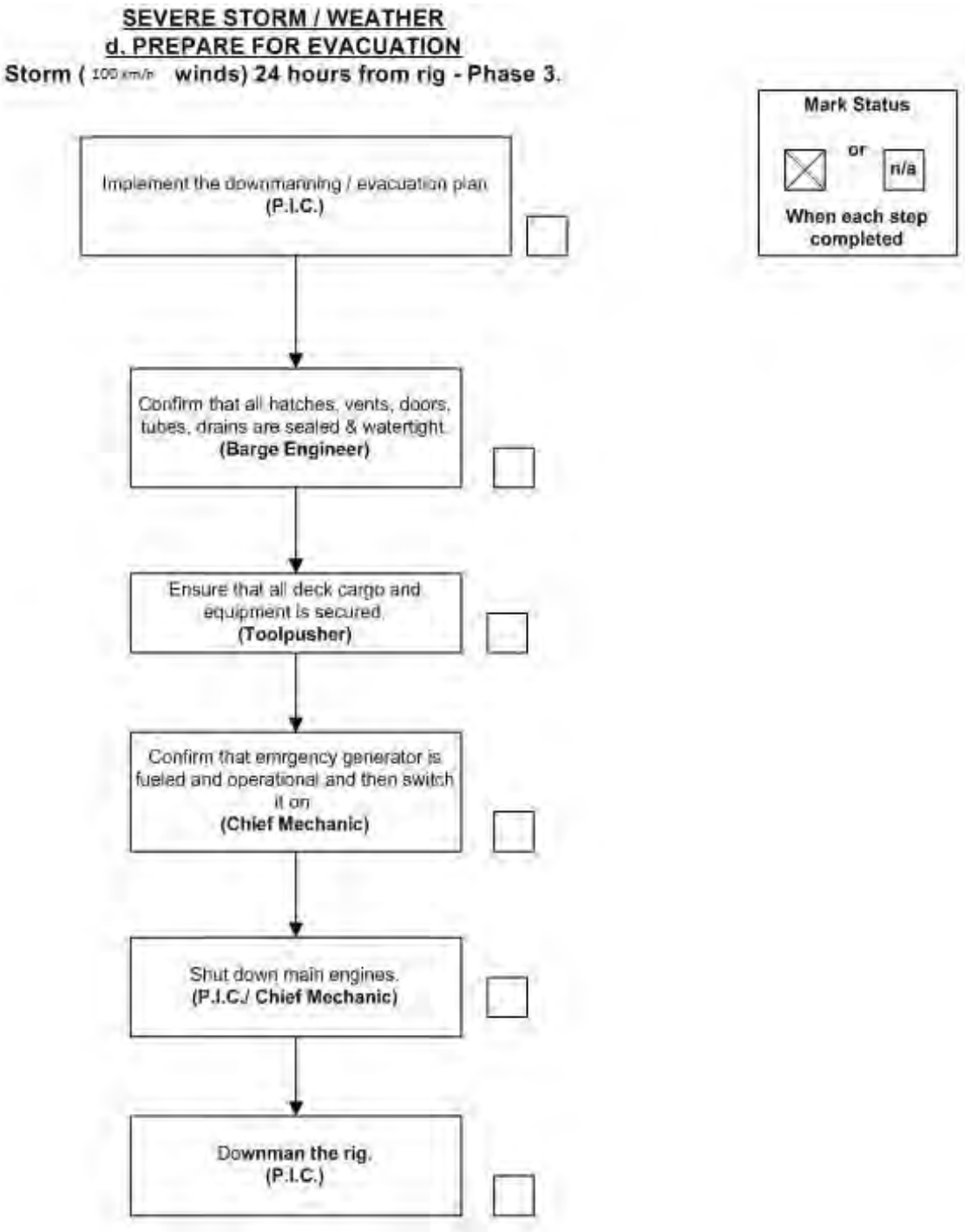
b. Storm (100 km/h winds) 72 hours from rig - Phase 1.



SEVERE STORM / WEATHER

c. Storm (100 km/h winds) 48 hours from rig - Phase 2.





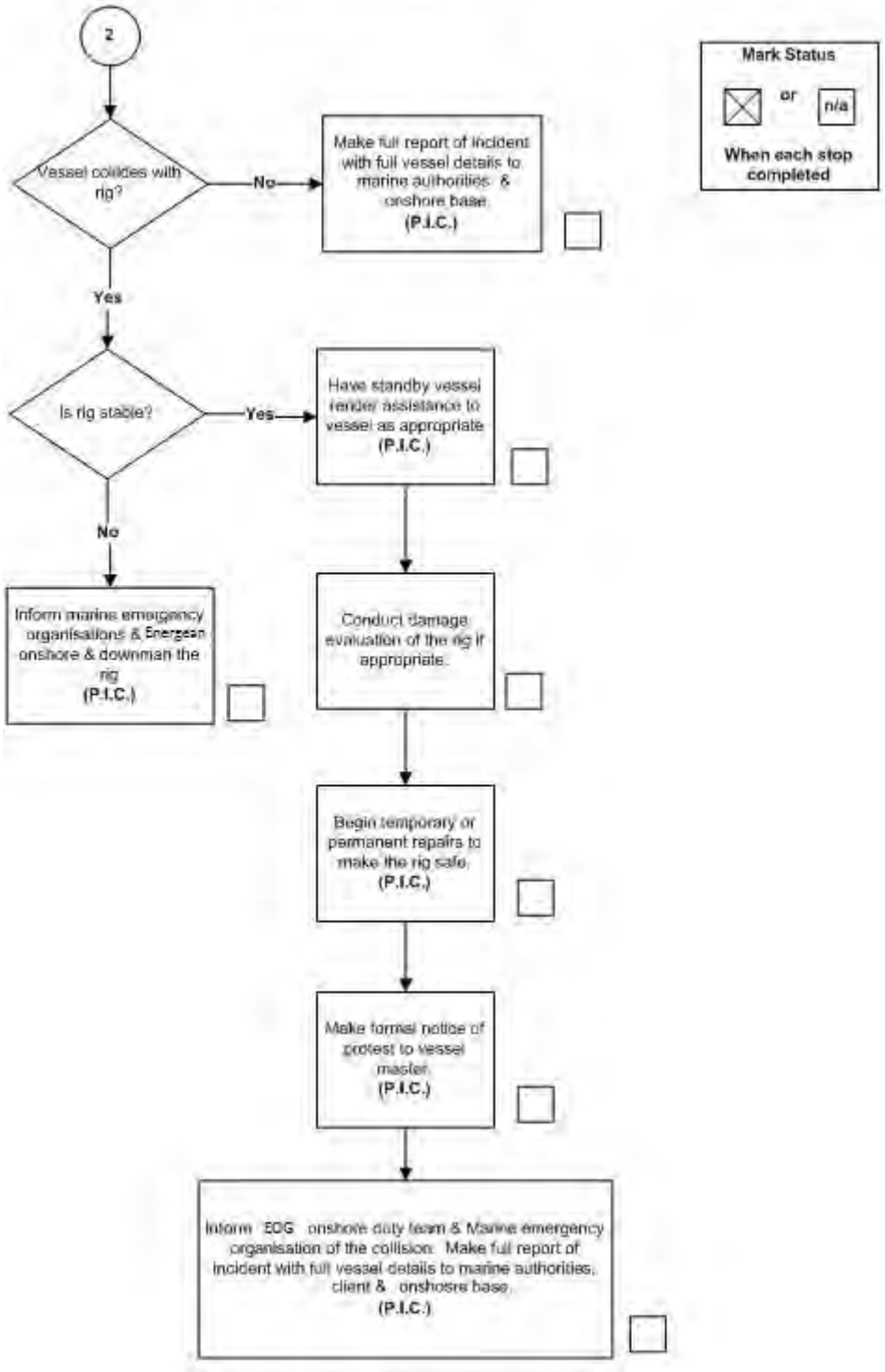
Notes:

To know when to begin storm preparations, multiply the speed of the storm by the time needed, or:

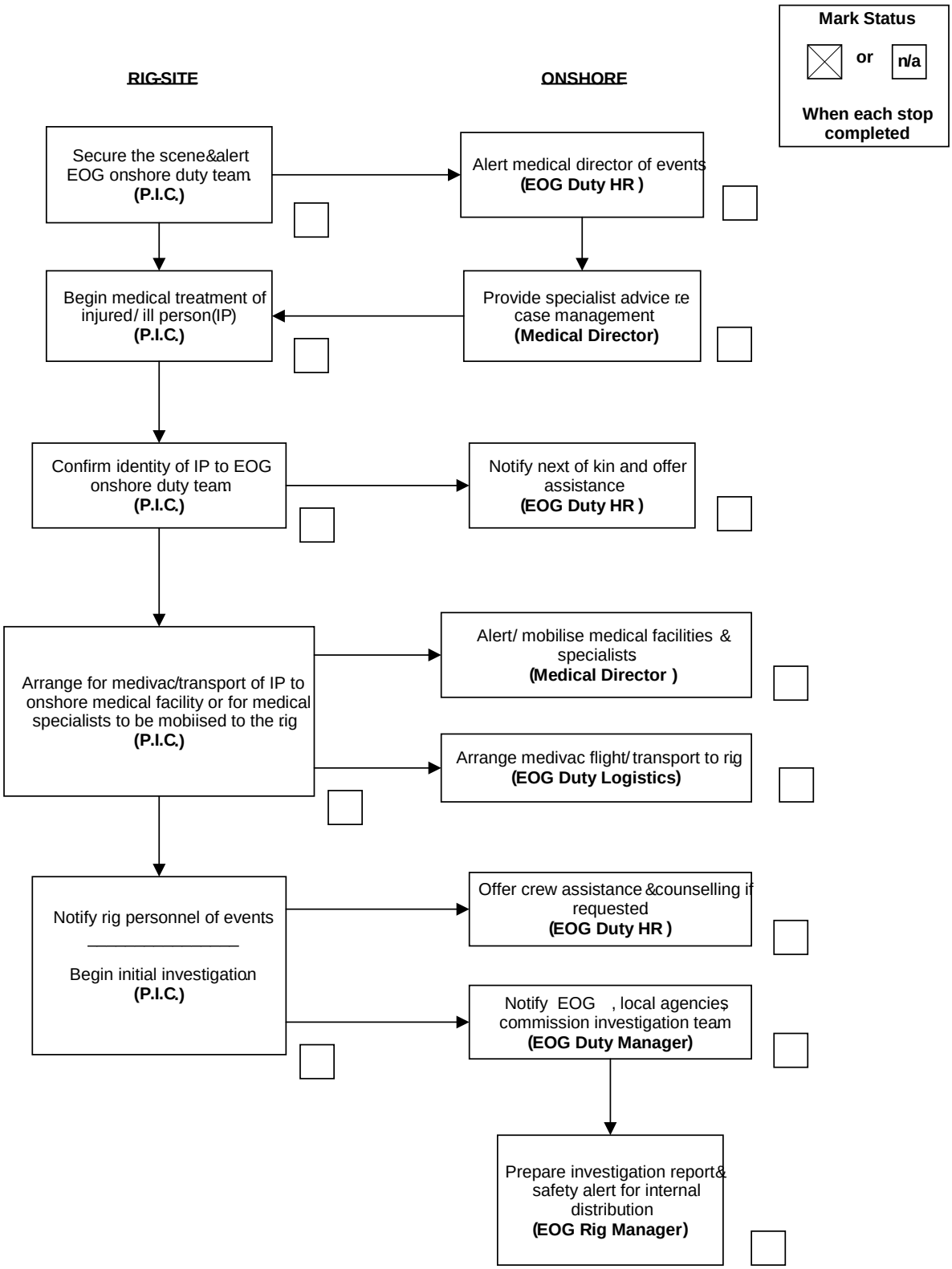
D = S x T

Where “D” is km from the rig, “S” is the speed of the storm, and T is the time needed (72, 48, or 24 hours) for each phase of storm preparation. For example, if the storm is traveling at 20 km per hour, 72-hour preparations should begin no later than when the storm is 1440 km from the rig (20 km/h x 72 hours = 1440 km). Use 24 km per hour (15 mph) as the minimum speed of the storm.

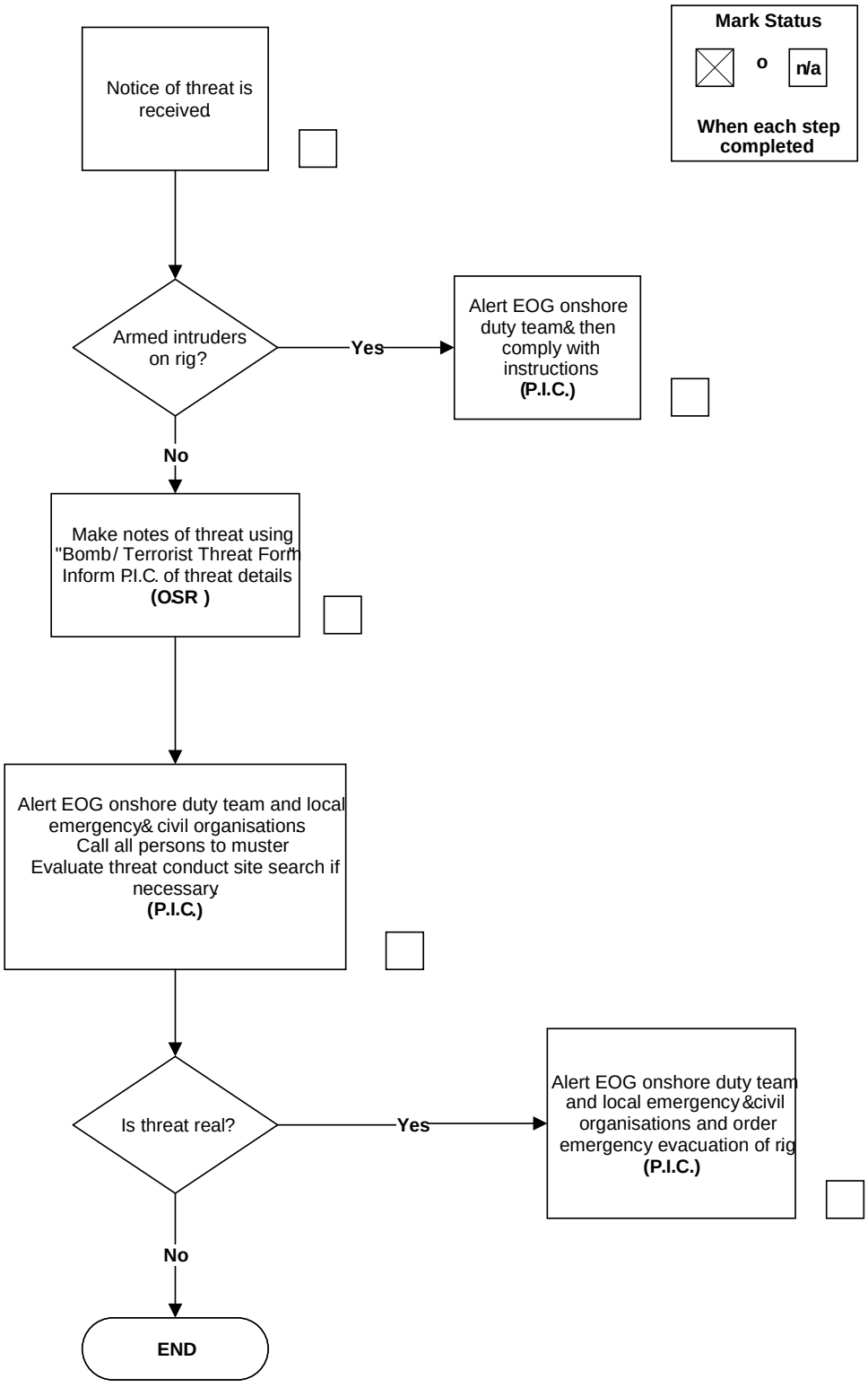
7. VESSEL COLLISION



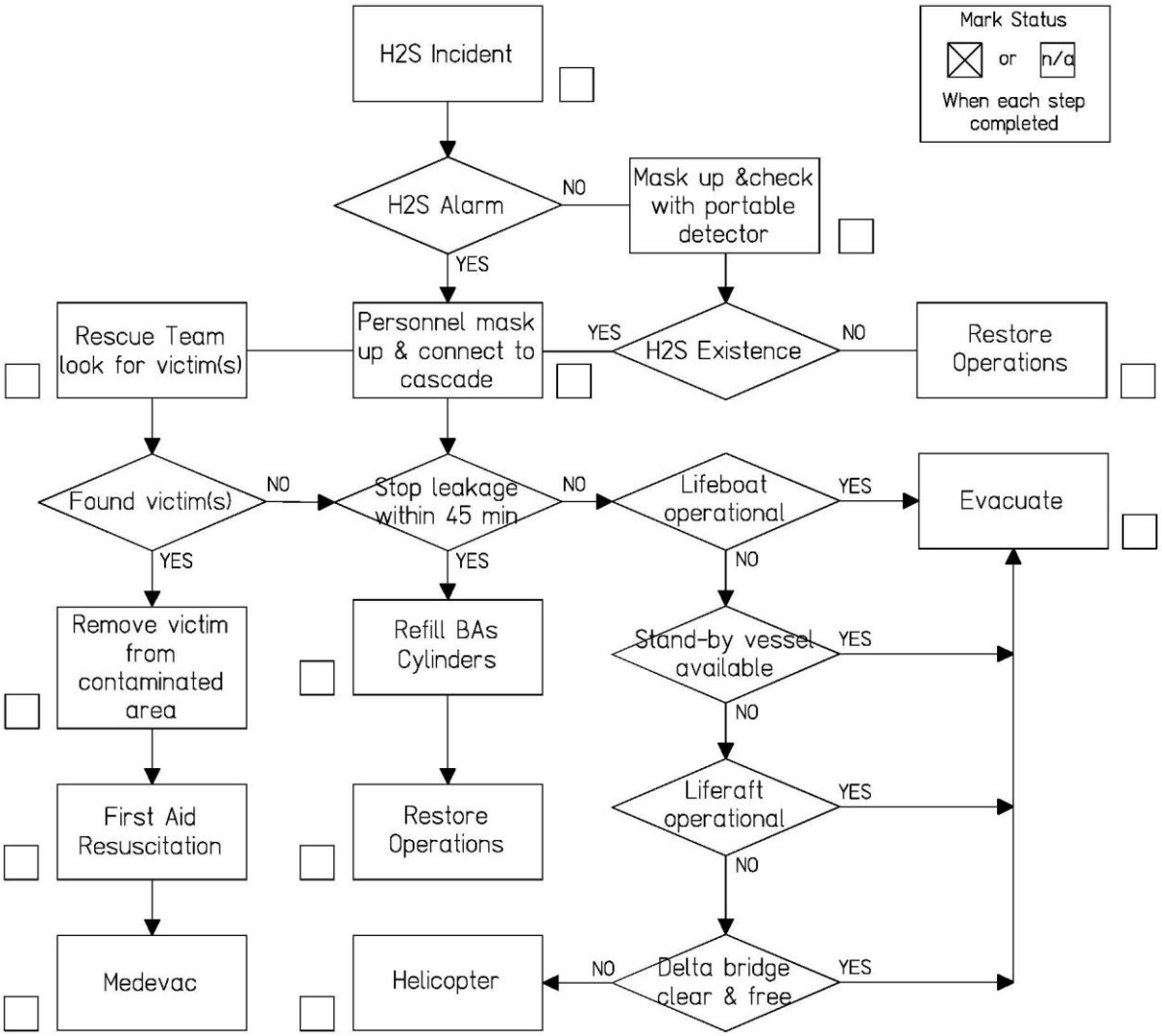
8. SERIOUS MEDICAL EMERGENCY



9 . BOMB / TERRORIST THREAT



10. H2S LEAKAGE



Appendix 5: H2S EMERGENCY RESPONSE PLAN

HYDROGEN SULPHIDE EMERGENCY RESPONSE PLAN

Date	10/1/2015	11/1/2015	12/1/2015
Name	V. Tsetoglou	V. Sarantinos	S. Moore
Position	HSE Manager	Drilling Manager	Technical Director
	Issued / Revised	**Reviewed**	**Approved**

INDEX

1. General

1.1 Onshore and Offshore Evacuation Procedures

The Plant Manager for the platforms and the onshore plant and the Offshore Installation Manager (OIM) for the rig make the decision at the time of the emergency as to what type of evacuation will be undertaken.

- Lifeboat Evacuation (Offshore)
- Use of specific lifeboats will be determined by the OIM / Offshore Operations Superintendent after considering wind direction & speed (Offshore)
- Work Boat Evacuation / standby vessel evacuation may be an option should prevailing weather conditions dictate (Offshore)
- Selection of specific Onshore Emergency Exit depending on the prevailing wind direction and the location of an event

The workboat master shall take instructions from the rig OIM / Offshore Operations Superintendent ensuring that prevailing wind direction and potential gas exposure is relayed to the workboat master.

Close communication with local Authorities ensures that they are immediately informed in case of such emergencies in order to protect local communities.

1.2 H2S Orientation & Training

Training is undertaken by a competent specialist in the field.

• The training covers in detail the properties of H2S
• The effects H2S has on the human body at pre-determined levels
• H2S contingency and procedures
• First aid and cardiopulmonary resuscitation
• Use of the emergency breathing apparatus / cascade systems
• Donning procedures

All Personnel are required to have the above training before start working and on an annual base. The annual safety training program also covers emergency and safety procedures, firefighting, medical care and use of lifesaving equipment.

Refresher training on H2S will be given during pre-job safety meetings.

The above training requirements are undertaken as part of the rig and the plant induction process.

1.3 Emergency Drills

Emergency drills are scheduled on a regular base depending on the theme. The drill covers emergency muster, H2S emergencies, use of SCBA & cascade system, rescue and initiation of emergency evacuation procedures including simulation or actual involvement of the standby vessel and lifeboats and firefighting.

2. General Working Guidelines

2.1 Safety Equipment

All safety equipment is confirmed functional by the OIM or the Safety Supervisor. All fixed H2S detection heads are set to provide an immediate level of alarm at 10 ppm. Furthermore all personnel are equipped with personal H2S detectors which are set to provide alarm for airborne H2S exposure of 1 ppm for an eight-hour time weighted average (TWA) and 5 ppm for a 15-minute short-term exposure limit (STEL), which is the recommendation of the American Conference of Governmental Industrial Hygienists (ACGIH). A rig layout diagram clearly indicating the location of all fixed H2S safety equipment, including cascade plug in

points is posted beside the muster list on the rig. All rig personnel are advised of the equipment's location and given appropriate training in the use of same.

2.2 Hot Work

In the event that Hot Work is ongoing during normal operations, it is suspended upon detection of H2S in the atmosphere. It is not resumed until the OIM is satisfied that it is safe to do so.

2.3 The "Buddy System"

The continuous operation of the "Buddy System" (working in pairs) is initiated upon detection of any quantity of H2S in the atmosphere. The requirement for "Buddy System" pairs is terminated by the OIM when H2S is no longer detectable in the atmosphere. Buddy system is implemented as minimum for the following cases in any detection of H2S:

- Confined spaces, shale shaker hand, mud mixing operations, working in mud pits, etc.
- All personnel follow the buddy system when working on the drill deck or wellhead deck regardless of H2S conditions.

2.4 Contact Lenses

It is advised that all types of contact lenses should not be worn while wearing breathing apparatus (BA). The reason is that a "theoretical" risk of eye damage exists, due to the contact lens' movement induced by eye movement in the dry compressed air used to feed the facemask.

2.5 Facial Hair

A clean-shaven policy shall be in general effect during working in H2S wells, for all personnel scheduled to work on the rig. Any facial hair, which is likely to interfere with the effective seal of BA facemasks, or any beard that prevents the resuscitator unit sealing is removed, preferably before departure to the rig.

2.6 Respiratory Problems

Personnel with physical or physiological conditions, which impair normal respiration, are not placed in jobs involving exposure to Hydrogen Sulphide or Sulphur Dioxide environment if use of the BA or exposure will complicate their respiratory problems.

All personnel with any of the above problems should be identified as part of their fit to work medical and any person with the above possible medical impairments whilst onboard should report to the rig doctor immediately.

2.7 Eardrums

There have been some differences of opinion in the medical community about when a person with a perforated ear drum can become overexposed to a toxic substance through the ear even when wearing a perfectly functioning self-contained BA.

In 1982, the Mineral Management Service (MMS), USA (nowadays Bureau of Safety and Environmental Enforcement, BSEE), rescinded the requirement for personnel ear drum examination and rescinded the prohibition against persons with perforated eardrums working in a Hydrogen Sulphide environment.

3. Communications

3.1 Communication between Production Platform and Rig

Communications between the Production platform and the Rig is one of the essential key to ensure the overall safety. Clear and confirmed communication/announcement should be

done for all activities that might lead in a potential H2S release, actual H2S release, hot work permit, heavy lifting, sampling activities, etc.

3.2 Communication While Masked UP

Good communications are essential during H2S alerts. Even simple communication between people who are masked up can be extremely difficult. This is greatly improved by the use of voice amplifiers incorporated in the BA masks and also by the use of tried and tested methods as chalkboards, note-pads and agreed hand signals which are arranged at critical sites on the rig. Mobile radios can be used by throat talking and the internal rig telephone system can still be used, but great care must be taken while talking "masked-up" to crisp the words so that can be understood.

4. Alarm Conditions

Detectable presence of H2S at 10 ppm in the atmosphere.
GENERAL ALARM will be sounded – continuous signal of constant frequency supplemented with red flashing light in high noise areas followed by Public Announcement (PA) system announcements.
On announcement of H2S alarm the following procedure shall be followed:
All hot works shall be suspended.
All non-essential personnel inside the living quarter will collect their Self Contained Breathing Apparatus (SCBA), before exit living quarter they will don their SCBA, will MUSTER on their designated Muster Station and connect to the breathing air cascade system.
All essential personnel with assigned tasks such as communication, monitoring systems, etc shall don a SCBA complete their task using the buddy system and then report to the person in charge.
All non-essential personnel outside the living quarter will wear an SCBA and report to the Muster Station, once arrived on there, will connect to the cascade system, participate to the headcount and wait for further instruction.
Essential personnel will wear an SCBA, connect to the cascade system and start pertinent activities for well shut in, etc.
Note – Working under SCBA or utilizing the rig cascade breathing air system with breathing apparatus shall be considered an abnormal operational situation with potential for adverse effects on health. This provision shall only be utilized to allow time to assess the H2S situation and make provision to either reduce to below 10 ppm H2S, which is the limit for 8 hours continuous work, or completely eliminate H2S in atmosphere. If this cannot be achieved within a reasonable amount of time, as determined by the OIM in consultation with the Drilling Supervisor, drilling operations will be suspended until H2S levels return to zero. The Plant Manager is responsible for authorizing relevant decisions for the platforms.

4.1 Essential Personnel

As the personnel essential to various well operations differ in detail, the OIM and the Drilling Supervisor will agree on the list of essential personnel before drilling and well control operations commence. The Offshore and Onshore Operations Superintendents will define the relevant list for the platforms and the onshore plant. Agreed lists of essential and non-essential personnel will then be clearly posted so that no confusion about status is likely to exist.
All personnel shall be provided with personal or portable monitoring equipment.

4.2 Non-Essential Personnel

If the level of H2S in the atmosphere equals or exceeds 10 ppm the H2S alarm will sound and announcement made by the OIM / Offshore – Onshore Operations Foreman via the PA

system. All non-essential personnel will proceed to the Muster Station Safe Briefing Area as described above.

4.3 Precautionary evacuation

In the event of a precautionary down-manning of the rig, the well will be shut in and a planned evacuation from the rig will be put in place.
If conditions deteriorate, the OIM will escalate the evacuation scenario to an Emergency situation. The Plant Manager will take relevant decision for the offshore and onshore plant.

4.4 Safe Briefing Areas

The only safe briefing area on the rig during an H2S alarm will be the Muster Station area. Manifold plug-ins for all personnel are available.

4.5 Access Restrictions

During any H2S alarm condition or safety critical operation, access to the immediate vicinity of operations will be restricted to minimum essential personnel. The area in question should be cordoned off and an announcement should be made to inform all personnel on the rig that a restriction has been made or lifted.

4.6 Lookouts

Lookouts will be posted when SCBA or the cascade system is in use. These observers will position themselves in a safe location with good visibility of the work area and monitor the personnel working under air and make note of the workers locations and movements. The observers will be equipped with SCBA, but not masked up and a personal H2S detector. Lookouts will stay in contact with the control room via portable radios. If any of the personnel working under air get into any difficulty, the lookouts should immediately notify the control room, don BA and give assistance/rescue where this will not compromise their own safety. If alarms are active all personnel should remain masked up until an all clear is announced.

4.7 Weather

Weather conditions are critical in an H2S emergency. The wind direction and speed should be monitored at all times. Careful consideration must be given if the wind drops below 10 knots since dispersion of any potential H2S release may not be sufficient for certain operations to be continued (e.g., circulating out a gas kick, flaring operations).
If the wind direction changes placing the accommodation downwind of a potential H2S source, again certain operations may have to be curtailed or delayed until assessment of the prevailing weather conditions and the risk they create for certain operations is carried out by the OIM / Offshore, Onshore Operations Foreman.

4.8 Vessel and Helicopter Warnings and Other Transport

All shipping in the vicinity is kept informed of the rig's and platform's H2S status. Warnings must be issued of any H2S alert condition for shipping to stand off upwind of the rig.

5. Specific H2S Procedures during Drilling Operations

During normal programmed drilling operations such as drilling ahead, tripping and running casing, if verified H2S readings of equal to or greater than 10 ppm in atmosphere the provisions detailed in Alarm Conditions**,** shall take effect.

5.1 Scenario

The philosophy behind procedures outlined in this section is that while drilling operations below the surface casing shoe are ongoing, the cause of an H2S emergency situation (leading

to the detection of 5 ppm H2S or greater in the atmosphere) would be an influx of fluids into the well bore due to the following:

- Temporary under balance - such as swabbing on a trip or incorrect mud density.
- Permanent under balance leading to a segregated or dispersed influx.

5.2 H2S Operational Procedures While Under H2S Condition

Drilling may proceed through an H2S bearing formation. In this scenario, quantities of H2S will enter the drilling fluid due to the 'normal' drilling process.

5.3 Theory

The degree to which sulphide and bisulphide (the components of H2S) remain dissolved in the mud is dependent upon the mud pH. A higher pH is desirable, as the solubility is higher. For example, at a pH of 8.3, the dissolved sulphide concentration in mud which is in equilibrium with 20 ppm H2S in the atmosphere is 500 mg/lt. At a pH of 10 however, the equilibrium concentration is only 50 mg/lt. Although the presence of free H2S in the atmosphere can be suppressed by adjusting the pH to above 10, any subsequent reduction of pH would regenerate the H2S, which would be released into the atmosphere.
The mud will also be treated with Ironite Sponge H2S Scavanger.

6. H2S Procedures While Tripping

Prior to Pull Out Of Hole (POOH), circulate the mud system and treat the mud to achieve a minimum pH of 10 and increase if necessary the Ironite sponge concentration.
If H2S Emergency Condition exists over 10 ppm H2S in atmosphere, the well will be shut in accordingly. The decision to RIH or strip to bottom, or circulate at this point to attempt remedial treatments (or even bullhead the pipe/annulus) should be made based on the well control implications, (if any) and available time for the crew to work on the mud system and rig floor.
The latter will depend on the cascade system capacity and the prevailing weather conditions (for charging the cascade system).

7. H2S Procedures during Well Control Operations

The preferred method for dealing with large influxes of H2S is by bull heading.

7.1 Circulating Out Trip Gas

- Trip gas and drill gas may be circulated via the rig well control choke.
- Gas from the mud gas separator and the vacuum degasser must be routed to the overboard vent, normally routed up the derrick.
- BA airlines tied into the containerized manifold system (cascade system) will be worn 30 minutes prior to bottoms up, by all rig floor personnel and mud room personnel.
- The degasser will be started at this time.
- The Mud Logger will inform the Toolpusher and Driller when trip gas is up, the maximum level of H2S from the mud downstream of the mud gas separator, and when this level drops below 5 ppm.
- A public announcement will be made to warn all non-essential personnel of any access restrictions.

7.2 Circulating Out a Kick

On encountering any influx of foreign fluid into the well bore:
1: Shut in well using predetermined shut in method.
2: Notify Toolpusher and Drilling Supervisor

3: Take account of wind speed and direction when selecting well control method. Proceed as outlined in Well Control Procedures.
If no H2S is detected the OIM, at his discretion, can issue a 'de-mask' announcement and the well control operation can continue without masks.

7.3 Weather

During well control operations, large quantities of H2S gas may be vented from the mud gas separator (MGS) and mud degasser vent lines. Such venting offers minimal risk to the personnel onboard the rig provided that sufficient wind is present to disperse the H2S away from the rig.
Dispersion of the gas to concentrations well below those that pose a hazard will occur almost immediately in even a moderate breeze. Very careful consideration must be given at wind speeds below 10 knots, taking into account the wind direction and the operation about to be carried out, to determine if an operation should be postponed for more favourable weather conditions.
The OIM is responsible for making the final determination as a result of a formal written job risk assessment. Under no circumstances should gas venting proceed under still wind conditions. The risk of the gas cloud sinking back onto the rig under these conditions is high.

8. H2S Procedures for Vessels General

Any escape of H2S can pose a safety hazard to shipping in the vicinity. H2S can get entrained in liquid hydrocarbon that will float on the water or, since the gas is heavier than air, a gas cloud will sink and accumulate at sea level. Calm wind conditions will make the problem worse while windy conditions will disperse the H2S almost immediately and virtually eliminate the risk. The rig's H2S status must be communicated to all vessels in the immediate vicinity. This will principally mean vessels involved in the drilling operations should be instructed to remain upwind during periods of risk.

8.1 Standby Boat

The standby boat is the vessel most at risk from H2S emissions given its requirement to move in to close proximity of the rig to fulfil its role. The standby boat is therefore equipped and the crew trained for operating in an H2S environment.

8.2 Vessel H2S Procedures

The Master of the standby boat has a primary responsibility for the safety of his own crew and should avoid exposing his crew to H2S gas whenever possible. The standby boat should remain upwind from the rig during all H2S alerts. The Master, in this case, should move his vessel further up wind and keep it in clear air.
If a rescue is required during an H2S alert, the vessel should remain in clear air and the fast rescue craft, manned by personnel fully masked and breathing from SCBA, should affect the rescue.
It is strongly recommended that the standby boat should never enter the contaminated area. H2S will accumulate and concentrate below decks in machine spaces and cabins. This could pose a fire and explosion risk. Clearing any accumulation will be a difficult and hazardous job.
The results of the H2S monitoring should be relayed back to the OIM on the rig and to the shore base. All vessels are equipped with breathing air cascade systems and breathing apparatus for the crew. In case of a rescue in clear air but with a potential contamination the crew is masked up and continuously monitors gas concentration in the air in order to immediately move away and use rescue crafts.

Electronic multigas monitor should be used any time the vessel enters the 500m radius from the rig even if no H2S alert is given by OIM. This will verify vessel movements are in a gas free environment.
In the event that a supply vessel has to make an emergency departure from the rig side while bunkering, all fuels and hazardous liquid chemical bunkering hoses shall be fitted with breakaway couplings.

8.3 Other Vessels

During H2S alerts a watch must be maintained on the rig / platforms for other vessels in the immediate vicinity, particularly those that may be downwind of the rig. Such vessels should be hailed and warned of the H2S alert and instructed to keep clear, preferably upwind of the rig. Under no circumstances should a vessel, which is not fully briefed and prepared for H2S alerts, be permitted to enter the rig's 500m safety zone.
The standby boat may have to be used to intercept or attract the attention of other vessels to issue the warning.

Appendix 6: DRILLING RIGS WORLDWIDE HSE STANDARDS

HEALTH SAFETY & ENVIRONMENT

DRILLING RIGS

WORLDWIDE HSE STANDARDS

ENERGEAN
OIL & GAS

Date: 29.07.2016

Revision:

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Compliance with these Standards will help to keep you and your team safe.

A Rig Supervisor's Guide

The Senior Energean Representative at each site is responsible for making sure that these standards are met.

1 Pre-Shift Briefings & Shift Handovers

- Pre-shift briefings are planning and communications meetings held just before work starts.
- All rig-site supervisors attend.
- Agenda items are :
  1. status of ongoing operations,
  2. manpower and resources required for safety of the shift's operations,
  3. agreeing access to equipment or work areas for e.g. maintenance or third party rig-up,
  4. Identifying which jobs need Permits, TRACs etc. to get these ready in advance.
     Briefings need to be based on written notes to ensure nothing is forgotten or left out.

Shift Handovers

- Where different crews work on the same operation then there must be a full written handover between the supervisors on the different shifts.
- The oncoming shift needs accurate information of the current status of the ongoing operation, rig equipment and consumables.
- Incidents and injuries are often caused by poor handovers.
- People who must handover are, as a minimum:
  - Rig Superintendents / Tool pushers
  - Drillers
  - Deck Foremen / Roustabout Pushers
  - Maintenance personnel

2 Toolbox Talks & TRAC

A toolbox talk will be held at the worksite between all people who will be involved in the same job.

- It will be held before each operation begins;
  a. Either at the start of a shift, or
  b. If a new job begins part way through a shift
- All toolbox talks will use a TRAC to identify a job's hazards and then agree who is responsible for taking action to control those hazards.
- If there is an existing Risk Assessment / JSA on file then
  a. Discuss the hazards already identified and attach a copy to TRAC
  b. note names of people responsible for hazard controls on it
  c. use TRAC for any specific hazards this time - e.g. any differences to the procedure, weather, green hands etc.
- If any new people join the job hold a quick Time-Out For Safety (TOFS) and brief them of the toolbox talk's key findings so they know what to do.
- If anything changes away from the plan agreed at the toolbox talk hold a TOFS to agree a new plan.

3 Site HSE Inspections

- Each rig or work-site must have inspection checklists for each area of the rig / site.
- Checklists must detail the condition that plant and equipment should be in.
- Inspections using these checklists must be conducted regularly.
- Rig inspections should be done when arriving on a new location, or following rig reactivation, and then weekly.
  a. It is best if the same person does not always do the same inspection; they can become 'blind' to gradual worsening
  b. Inspections should be repeated by supervisors to check the quality of inspections being done by the crew
- Inspections should be performed by
  1. The senior Energean representative

2. Personnel responsible for specific areas of the rig or site
    a. Site managers and supervisors
    b. Any specialists, such as senior maintenance personnel
3. Energean HSE personnel

Inspection Findings

- Any problems that can be fixed immediately should be fixed at that time.
- If there are any problems that cannot be fixed at the time of the inspection then;
    a. Immediate steps must be taken to control any hazards
    b. Long term solutions can be identified, equipment and parts ordered, and controls put in place in line with a suitable plan
    c. Actions should be added to the rig action tracker and their close-out should be monitored.

4 Lifting Operations

Lifting equipment must be suitable for the areas it will be used.

- Maintained in good condition, certified
- Used in line with manufacturer's recommendations, destroyed if damaged

Lifting equipment will have a Safe Working Load (SWL), and must only be used to lift loads below its SWL

- The way that equipment is rigged will affect. its SWL, and this must be taken into account.

Lifting equipment must be inspected;

- By independent specialists on a periodic basis
- By competent users before the equipment is used for the first time in a shift.

Good Practice - Control and Issue;

- Equipment must be stored in a lifting / rigging loft or suitable container when not issued for use
- Lifting equipment must be issued in controlled manner - signed out and then signed back into store.

All lifts need to be planned.

The amount of detail required in a plan will depend on the complexity of the lift and the competence of the people doing the lift.

- Plans for routine lifting jobs may be included in rig manuals and work guidelines
- Written plans will need to be developed for difficult or complex jobs for input to the pre-shift briefing and the toolbox talk TRAC

The banksman

- The banksman **must:**
  - Maintain a full overview of the lifting operation
  - Remain in line of sight and in communication with **all** people involved in the lift
    - (by using secondary banksmen if necessary).
  - Be the only person giving instructions to bank the load
  - Ensure the safety of his team and others who may come into the lift area
  - Never touch the load until it has been landed.

Lifting Rules

- People must never work directly next to, or beneath, a suspended load
- Taglines must be used to guide loads, unless they create a greater hazard
- Load handlers must not touch the load until it is at or below waist height - and even then they should avoid touching the load if possible.
- Minimum Manpower:
  - Cranes = 1 x crane driver, 1 x banksman, 1 x load handler
  - Gantry cranes = 1 x banksman I operator, 1 x load handler
  - Fork-lift and other lift trucks = 1 x competent driver

5 Safety Auditing by Supervisors

- Supervisors at site (day & night-shift Toolpusher, Driller) must carry out daily safety audits of rig operations.
- These are audits of whether the job has been properly planned and is being carried out in line with procedures and toolbox talk / TRAC.
- They are audits of the work process underway on the rig - the job as a whole
  - They're to be recorded on a STOP or SOS card but are not just spot checks.
  - A log of jobs audited can be useful to maintain.
- The process is to check that: *"the right people with the right equipment are in the right place at the right time ... with the right plan and the right precautions in place"*

6 Incident Reporting

- All events that hurt somebody, or had the potential to hurt somebody, must be investigated and reported via the company's incident reporting system
  - The initial report of incident details need to be sent to local and regional offices within 24 hours
  - For serious incidents root-cause investigation findings should be issued to local and regional offices 72 hours after the incident.
- Once incident causes have been identified then corrective actions must be taken.
  - If there are any causes that cannot be immediately addressed then;
    a. immediate steps must be taken to control any hazards
    b. Long-term solutions can be identified, equipment and parts ordered and controls put in place in line with a suitable plan

7 Task Risk Assessment

- All jobs which could injure, including those which apply to the site in the list below, must be suitably risk assessed to ensure that the risks contained in the work 'scope can be controlled and reduced.
- Once risks have been assessed, controls must be
  a. put in place before work begins and
  b. written into work procedures ready for the next time the work is done.
- Work requiring Task Risk Assessment
  1. Transport and Storage of Tubulars
  2. Drilling, Reaming, Milling
  3. Handling of Drilling Equipment
  4. Handling of Drill string and Casing running
  5. Working with Tongs. Slips and Elevators
  6. Working with Travelling Block and Drilling Line
  7. Use of Lifting Equipment
  8. Working at Height
  9. Working in Tanks / Confined Spaces
  10. Handling Chemicals
  11. Working at the Mud Pumps
  12. Working over water
  13. Working at High Pressure Lines and Valves
  14. Working in the Substructure
  15. Working in Cellars
  16. Rig move and Transport
  17. Working with Forklift and Crane
  18. Fishing Operations
  19. Working' with Cores and Samples

20. Logging Operations
21. Cementation, Stimulation, Tests
22. Movements on location
23. Working in Ex - Zones

8 Safety Observation & Intervention

Managers and supervisors directly responsible for worksites must ensure that:

- SOS (or STOP or an alternative program if contractually agreed otherwise) is implemented at site
- Cards and associated materials are available at the worksite
- All personnel on site are trained and involved in the program
- Appropriate corrective action is taken where observations or unsafe acts or conditions have been made
- Observation findings are discussed at the worksite, e.g. at crew meetings or pre- shift briefings

9 HSE Meetings

- On every rig there is a weekly safety meeting which is attended by everyone working under supervision of the senior Energean representative.
- This meeting is planned and chaired by the Toolpusher and, apart from ongoing operations safety topics, the following shall be brought up at such meetings:
  - Trends or significant observations from safety observation cards,
  - Incident reports and safety performance at the location in general,
  - Safety and equipment alerts.
  - Feedback from the previous meeting, including the status of outstanding actions
  - Any significant incidents on other Energean operations, with focus on actions to prevent reoccurrence.
  - Progress against targets in the rig's safety plan

10 Manual Handling

An assessment of risk to health from manual handling (lifting, carrying, pulling, and pushing) must be made for all sites.

Those activities that present a risk of injury shall then be controlled by (in order of preference);

- Using mechanical lifting aids & machinery
- Reducing the weight to be moved, e.g. splitting the load, smaller sacks
- Involving more people in the activity, ex. sharing the load
- Provide training or instruction

Assessments can be shared between different locations where the same activities are carried out.

Assessments can be done either by task or by area:

- By task, an assessment will be made of each individual manual handling task.
- "How is this job done?"
- By area, an assessment will be made of an entire work area.
- What manual handling jobs are done on this part of the rig?

11 Permit to Work

AII rigs shall use a Permit to Work system to co-ordinate and allow non-routine or high-risk activities to take place at the same time as other, ongoing operations.

Permits shall be used for:

- ✓ Hot work of any type where heat is used or generated, except in designated areas
- ✓ Confined space and vessel entry
- ✓ Hydrostatic testing or pressure testing

- ✓ Invasive maintenance work on items of plant machinery such as agitators and mud pumps
- ✓ Opening of explosion proof or purged enclosures in classified areas
- ✓ Erection of scaffolding
- ✓ Work carried out al height, except for routine jobs performed by the derrickman
- ✓ Work with ionizing radiation or explosives
- ✓ Work on electrical systems and equipment
- ✓ Heavy lifts (e.g. extraordinary long or big loads)
- ✓ Maintenance operations on safety systems
- ✓ Working over water
- ✓ Any other work where a permit is considered necessary by the senior Energean representative

Permits will contain the following information as a minimum:

- ✓ Identification of the specific competent people who are to conduct the work.
- ✓ A description of the work to be performed;
- ✓ The location where the work is to be performed;
- ✓ Hazard identification or risk assessment of the work and the worksite
- ✓ The necessary safety precautions, protective equipment etc

Work can only begin after the Toolpusher* and other necessary people have signed that the worksite is in a fit condition and that necessary precautions are in place.

If work is to continue e.g. after a shift change a new permit must be raised.

Equipment or plant which normally contains electricity, pressure or mechanical energy, or hazardous substances or gases must be isolated before work begins. All isolations shall be controlled by lock and key or otherwise physically prevented from being removed.

Equipment or confined spaces which may contain gas or hazardous atmospheres (e.g. oxygen deficiency) must be confirmed "gas free" prior to the commencement of work.

Maintained detection equipment must be available at each rig for gas tests.

Equipment can only be put back into service on signed authorization of the Toolpusher* or his designated deputy that it is safe to do so.

**or other necessary permit signatories.*

12 Emergency Response .

- All sites shall have in place procedures to deal with the emergencies that could happen at that site
- For all work sites this will include actions to take in the event of a fire
- General procedures will be prepared for all work sites dealing with site evacuation, escape and / or medevac to a place of safety
- Otherwise, each worksite shall draw up a plan and schedule of drills and exercises which will ensure that each person who is normally based at that work-site has practiced their role in each relevant emergency procedure at least twice per year

13 Induction .

All personnel arriving at a location will be given a familiarization jour and a thorough induction, which must include the following subjects:

- Energean HS&E policy, vision and expectations
- Site layout
- Reporting lines and site supervisors
- Site specific hazards and controls
- Operating procedures and work practices, including
- Permit to work procedures
- Toolbox talks and the TRAC system
- H2S procedures and breathing apparatus precautions
- Incident reporting
- Alarms' status lights' PA system announcements
- Medic, first aiders and first aid boxes
- Fire exits, fire-fighting facilities and lifesaving appliances
- Escape routes, location of assembly points or emergency muster stations

- Identification of fire team / muster checkers
- Station bill / muster lists
- Lifting operations safety
- Work at height and scaffolding
- Prevention of exposure to hazardous substances
- Personal Protective Equipment
- Location of cabin /galley /laundry /changing rooms/ sick bay
- Waste segregation and general housekeeping
- No-Smoking arrangements

Appendix 7: PERMIT TO WORK PROCEDURE

MANAGEMENT SYSTEM

OPERATING PROCEDURE

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Note: The Energean Technical Support Management Systems Department is responsible for the control of revisions to the Management System Documentation.

00	24/04/15	Issued for Use	HSE Manager	Drilling Superintendent	Well Delivery Manager
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Revision Record

Section	Page	Revision	Date	Description
All	All	00	24/04/15	New document – issued for use.

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1.0 PERMIT TO WORK POLICY

No potentially hazardous, non routine work can be performed on an ENERGEAN owned or operated facility by any employee, contractor, or other party, without a formal, written "Permit to Work" that follows the requirements of this Permit to Work System. Failure to follow the procedures established by the Permit to Work System is grounds for immediate disciplinary action, including termination of employment or contractual agreements.

ENERGEAN's goal is to manage risks inherent to potentially hazardous work on all ENERGEAN owned and operated facilities. The Permit to Work System is a formal process for controlling these potential hazards. The system requires a written authorization before any work that might be hazardous to ENERGEAN employees, contractors, or other parties can begin.

ENERGEAN will ensure that:

- An appropriate Permit to Work System is in force
- Personnel are properly trained to administer, implement, and use the Permit to Work System
- A process to audit compliance with, and effectiveness of the Permit to Work System is in place and in use

2.0 INTRODUCTION

2.1 SCOPE

The Permit to Work System applies to activities associated with ENERGEAN operations performed by ENERGEAN personnel and contractors on ENERGEAN owned or operated facilities.

2.1.1 WORK REQUIRING A PERMIT

Work permits are typically required for all non routine work. Non routine work requiring a work permit includes all activities outside the regular operation. Work permits are required for the following:

- Entry into a confined space
- Hot work in any area except inside welding shop or designated welding area
- Any work that directly affects critical safety systems
- Any construction work, overhauls, or repairs on systems or equipment in classified areas
- Work by contractors in classified areas
- Hydrostatic or pneumatic-pressure testing
- Activities involving radioactive sources such as non-destructive testing
- Activities when a known hazard exists, such as isolation or lockout / tagout
- Scaffold erection
- Work with explosives
- Work carried out in the derrick (except routine jobs performed by the Derrickman)
- Any other work at height
- Work over water
- Any work the Person in Charge (PIC) determines is non routine and requires a work permit
- Special or engineered lifts
- Use of non-intrinsically safe electrical test equipment in Hazardous Areas.

2.1.2 WORK NOT REQUIRING A PERMIT

These activities do not require a permit:

- Routine operations including start-ups, changes in operational modes, and shutdowns

- Routine work, including first-line maintenance by operations personnel, such as topping up oil or water, tuning controllers, and so on
- Work in designated maintenance or construction shops
- Work that controls or prevents the escalation of an emergency
- Preliminary fault finding on electrical systems, including re-setting overloads (Note: Does not allow for the use of non-intrinsically safe test equipment in Hazardous Areas).
- Routine lamp changing of fluorescent tubes / lamps at inside areas. (Note: Does not include any necessary subsequent fault finding).

2.2 OBJECTIVES

The objectives of the Permit to Work System are to:

- Ensure the safety of personnel involved in or affected by the work.
- Specify precautions that employees should take (e.g., isolation of equipment and use of personal protective equipment).
- Explain the hazards involved in a job or activity and any limitations to the extent of the work or the time during which the work can be performed.
- Identify and control potential hazards.
- Ensure that work is authorized before starting.
- Ensure that supervisors are aware of all work performed in their areas.
- Provide a formal procedure for suspending work before completion.
- Provide a formal handover procedure when work continues past the end of one tour or when permit signatories change.
- Display all work permits properly at the job site.
- Audit and evaluate the use and effectiveness of the permit system.

3.0 ABBREVIATIONS AND GLOSSARY OF TERMS

The following abbreviations and terms are used in the Permit to Work System.

3.1 ABBREVIATIONS

CEP	Competent Electrical Person
EPI	Extended period isolation
H_2S	Hydrogen sulphide
LEL	Lower explosive limit
LOA	Limitation of Access certificates
PC	Permit Coordinator
PCC	Permit Control Center
PIC	Person in Charge
PPE	Personal protective equipment
ppm	Parts per million
PIP	Preparation / Isolation Permit
PTW	Permit to Work
SCBA	Self-contained breathing apparatus
UEL	Upper explosive limit

3.2 GLOSSARY OF TERMS

3.2.1 AREA SUPERVISORS

In the Permit to Work System, these positions are considered Area Supervisors:

- Rig Superintendent / Assistant rig Superintendent
- Maintenance Supervisor
- Electrical Supervisor or Rig Electrician
- Mechanics
- Barge Master and Assistant Barge Master
- Electricians
- Crane Operator (Deck Foreman)
- Mechanical Supervisor
- Driller and Assistant Driller

3.2.2 AUTHORIZED GAS TESTER

A person who is trained, competent and authorized by ENERGEAN to perform gas tests.

3.2.3 CANCELLED PERMIT

A permit that is properly signed off as completed or cancelled and one in which all relevant checks have been made to ensure that all necessary procedures have been performed.

3.2.4 COLD WORK

Hazardous work and work on critical safety and emergency systems where no open flames or other sources of ignition exist.

3.2.5 COMPETENT PERSON

A person who has acquired, through a combination of training, education and experience, the knowledge and skills to perform a specified task correctly.

3.2.6 COMPETENT ELECTRICAL PERSON

As above, but with specific knowledge of the electrical systems.

3.2.7 CONFINED SPACE

A confined space is defined as follows:

- Has limited or restricted means of entry or exit
- Being large enough for an employee to enter and perform work
- Is not designed for continuous occupancy by the employee
- Contains, or may contain, a hazardous atmosphere
- Is contaminated
- Is oxygen-deficient or oxygen-rich
- Contains a material that might engulf the entrant
- Has an internal configuration that might cause an entrant to be trapped or asphyxiated

Confined spaces may include but are not limited to:

- Storage tanks, vessels, boilers, pressure vessels, silos, and other tank-like compartments
- Open-topped spaces of more than 5 feet (1.5 meters) in depth, such as degreasers, or pits that are not subject to good natural ventilation
- Pipes, shafts, ducts, and similar structures
- Any spaces entered through an 18-inch (45.72 centimetres) or less hatchway or access point, double-bottom tanks, duct keels, ballast and oil tanks, and void spaces, but not including dry cargo holds

3.2.8 CONFINED SPACE ENTRY

Entry of a person's upper body or head into a confined space.

3.2.9 CONTRACTOR

Personnel working onsite who are not directly employed by Energean and are generally not permanent. They may be contracted to perform a specific task or supplement the Energean's workforce and may provide their own supervision or be responsible to an Energean's supervisor.

3.2.10 CRITICAL SAFETY SYSTEMS

Defined by the Operations Manager / Rig Manager and normally include, but are not limited to, emergency shutdown systems, fire and gas detection, critical communication systems, well control equipment, emergency lighting and HVAC systems.

3.2.11 EXPLOSIVE (FLAMMABLE) RANGE

Range of flammable containment/air mixture between the lower explosive limit (LEL) and the upper explosive limit (UEL).

3.2.12 FIRE WATCH (FIRE SAFETY WATCHER)

A trained, competent person who maintains a continuous and thorough watch of an area during hot work or potentially hazardous operations in order to safeguard personnel and equipment.

3.2.13 HOT WORK

All activities with the potential to create a source of ignition. This definition includes, but is not limited to, the following work:

- Welding (arc or gas)
- Cutting torches
- Abrasive wheels, grinding
- Use of electric tools
- Use of open flames
- Shrink – sleeve heat gun (blower).
- Use of non-intrinsically safe test equipment.

3.2.14 LOW-VOLTAGE ELECTRICAL EQUIPMENT

Electrical equipment with voltage less than 24V AC/DC.

3.2.15 LOWER EXPLOSIVE LIMIT

For flammable contaminants, this is the concentration of a contaminant in air below which the propagation of a flame does not occur on contact with an ignition source.

3.2.16 PERMIT APPLICANT

The person who applies for the work permit, often the supervisor or person in charge of work who is responsible for the planning and execution of the job or who will do the job.

3.2.17 PERMIT BOARD

A board for posting the location of all work and type of permit covering the work. It is recommended this take the form of a simplified rig lay-out plan which can be used to indicate the location of current open PTW's. In addition, it may prove beneficial to colour code the various areas of the rig according to the Area Authority responsible for that area.

3.2.18 PERMIT CONTROL CENTER

The Permit Control Center is the PIC-designated location from which all permits are issued, monitored, logged, suspended, or cancelled.

3.2.19 PERMIT HOLDER

The person who carries out the job, or his or her immediate supervisor at the job site.

3.2.20 PERMIT LOG

A log of all active permits maintained by the Permit Coordinator.

3.2.21 PERSON IN CHARGE OF WORK

The person responsible for the work being performed and to whom the Permit to Work has been issued.

3.2.22 PURGING

The method by which contaminants are displaced from a confined space.

3.2.23 SAFETY CHECKLIST

This checklist helps the person using the Permit to Work System to determine that necessary safety precautions are met before issuing a Permit to Work.

3.2.24 SHALL

This indicates a mandatory course of action.

3.2.25 SHOULD

This indicates a recommended course of action.

3.2.26 STANDBY PERSON

A competent person assigned to remain on the outside of and close to the confined space. This person is in continuous communication with and, if practical, observes those inside, initiates rescue procedures, and operates equipment to enter the confined space.

3.2.27 WORK PERMIT

The document signed by an authorized person that states that a job may begin under the precautions noted.

4.0 PERMIT TO WORK RULES

The following Permit to Work Rules applies to all personnel.

4.1 PERMIT TO WORK

No potentially hazardous non routine work can occur on any ENERGEAN owned or operated facilities unless a formal Permit to Work has been properly issued with the following signed authorizations on the permit:

- PIC or designated representative
- Area Supervisor of the area where the work will take place
- Person in charge of work
- Permit Coordinator or Rig Safety and Training Officer

4.2 TRAINING REQUIREMENT

No person can perform any potentially hazardous non routine work unless properly trained in the Permit to Work System.

No person may function as a permit administrator or person in charge of work, or undertake work covered by a permit without first successfully completing PTW administrator training.

APPOINTMENT OF AUTHORIZED PERMIT SIGNATORIES AND AREA SUPERVISORS

No person is authorized to sign permits without first successfully completing the Permit to Work Training Course.

SIGNATORIES WHO MUST BE FORMALLY APPOINTED

Permit signatories in the following positions or functions must be trained before being appointed to sign permits:

- PIC/Authorized Person (OIM / Night and Day Rig Supervisors)
- Area Supervisors
- Person in charge of work at the worksite
- Competent Electrical Person

APPOINTMENT

The signatories above are appointed formally by their line management. Before formal authorization, authorizing personnel must ensure that signatories:

- Have completed PTW administrator training
- Are familiar with the rig within their own area
- Know of other areas of the rig that may affect permits they will sign
- Understand Area Supervisor's boundaries
- Know PIC's instructions affecting precautions to take for particular tasks
- Know potential hazards, paying particular attention to those that are rig-specific
- In the case of the Competent Electrical Person, must have specific knowledge of the rig's electrical equipment.

The PIC maintains the Appointment of Permit Signatories.

4.3 PERFORMANCE OF WORK

No work for which a Permit to Work is required can be performed by any personnel on an Energean owned or operated facility until a Permit to Work is properly authorized and issued, and they have been formally notified by the person in charge of work.

4.4 PERMIT VALIDITY PERIOD

Permits are valid for a maximum of 12 hours or until the end of the tour on which they were issued.

4.5 PERMIT SUSPENSION

A permit is suspended when any of the following conditions apply:

- Work has halted and the person in charge of work has initialled the permit to confirm that the worksite is safe, secure, and if necessary, zoned off; all equipment and material no longer required are removed from the worksite.
- Conditions change from those stated in the Permit to Work.
- An emergency alarm sounds.
- If an alarm sounds, the worksite is to be made safe and the person in charge of work should go to the designated primary muster area rather than return the permit to the Permit Control Centre.

If the suspension of work lasts longer than the time allowed on the permit, the person in charge of work signs off the permit in the "Work Not Completed" section. The permit is

then given to the Area Supervisor, who returns it to the Permit Control Center where it is placed on the permit board in the section "Permit Suspended."

Note: When a permit is suspended, only the isolation section of the permit remains in "open" status.

4.6 REINSTATEMENT OF A SUSPENDED PERMIT

Following the suspension of a permit, request a new work permit and have it approved and issued through the Permit to Work System before restarting work. Attach the new permit to the suspended permit.

When work is suspended because of an emergency, the person in charge of work is responsible for returning all copies of the permit to the Permit Control Center, when conditions return to normal. The permit can then be reinstated through the Permit to Work System.

4.7 HOT WORK

Do not perform hot work on equipment containing flammable or combustible material. Hot work is any work involving an open flame or other positive ignition sources, or which involves a potential source of ignition.

Examples of work requiring a Hot Work Permit follow:

- Work involving an open flame
- Grinding, soldering, or welding
- Work on any electrical equipment with a voltage greater than 24 volts, including the partial or complete shutdown of power generators, electrical isolations, or work on safety-critical systems
- Use of any non-intrinsically safe or non-certified electrical or electronic equipment except in designated areas of accommodation and non-hazardous areas. This includes cameras, video cameras, audio recording equipment and non-intrinsically safe test equipment
- Grit blasting or needle gunning in classified areas
- Metal cutting using air, electric, or hydraulic power tools
- Use of unprotected portable diesel engines that are not tied into the fire or gas shutdown systems
- All work involving explosives or other pyrotechnics

4.8 COLD WORK

Use a Cold Work Permit and Confined Space Entry to do any work that does not involve hot work but is recognized as hazardous and to work on critical safety and emergency systems. Examples of work requiring a Cold Work Permit follow:

- High-pressure water washing that exceeds 1,500 PSI
- Removal of handrails, grating, hatches, and fixed ladders or back scratches
- Well-service operations
- Well shot
- Erection and dismantling of scaffolding
- Diving operations
- Pressure testing
- Maintenance work on survival craft or other lifesaving equipment
- Working over water or underneath an offshore rig
- Work carried out in the derrick (except routine work performed by the Derrickman) or any other work at height.

4.9 CONFINED SPACE

All work in a confined space requires either a Hot or Cold Work Permit. The permit states the necessary precautions, gas testing, isolations, and entry procedures required, as well as the work to be performed, to enhance the safety of personnel working within the confined space.

4.10 LIMITATION OF ACCESS

For work in close proximity to live conductors or the testing of live low voltage conductors, a Limitation of Access certificate is required. This certificate must specify the equipment the work or testing is to be performed on, accurately record the nature of the work or testing to be performed and detail any precautions required in advance of, or during the work i.e. posting of danger or caution notices, safety equipment required etc. Whenever working under an LOA, a second person must always be in attendance. Whilst this individual does not necessarily have to be a trained, competent electrical authority they must be aware of actions to be completed in the event of an emergency i.e. how to remotely isolate the equipment being worked on / tested or how to safely rescue an injured party in the event of electrocution.

Note: The issuing of a Limitation of Access does not permit working on live conductors.

4.11 ISOLATIONS

Before working on electrical or mechanical equipment, the Senior Electrician shall lock out the equipment and tag the corresponding switchgear or mechanical gear to prevent accidental activation.

Indicate all points of isolations. Fill out the Preparation/Isolation Permit number on the tag. Attach all stubs of tags used in the isolation process to the Preparation/Isolation Permit.

4.12 LONG-TERM ISOLATIONS

A long-term isolation cannot be cancelled without a work permit.

4.13 ELECTRICAL ISOLATION

All electrical isolations/de-isolations, with the exception of low voltage (less than 24 volts AC/DC) for control circuits, shall be recorded on a Preparation / Isolation Permit and performed in accordance with Appendix C. An Electrician may perform work on voltages less than 24 volts if the conditions below are met:

- The isolation or series of isolations required for the work are, in the opinion of the PIC and Electrician, relatively minor.
- All precautions that apply to switching work, testing, or faultfinding on low-voltage electrical equipment apply.
- The switching work, testing, or faultfinding is purely electrical, and a competent electrical person who is to complete the switching work, testing, or faultfinding does the isolation.

4.14 PERMIT RETENTION

A record of all issued, suspended, and executed permits shall be maintained on the installation for 1 year. All three copies of the cancelled permits are filed by type (i.e., Hot Permit or Cold Permit) and in numerical order. The PIC should review the file monthly, and all permits over 12 months old should be archived for an additional 12 months.

The PIC maintains the original and all copies of a permit associated with a reported incident until investigation into the incident is complete.

4.15 PERMIT TO WORK CONTROL LOG SHEET

The Permit to Work Control Log sheet is an up-to-date log of all active permits to work. When the status of a permit changes, it should be noted in the log.

4.16 AUDIT OF PERMIT TO WORK SYSTEM

The PIC shall ensure that audits of the Permit to Work System follow the Permit to Work Audit Checklist.

The PIC shall ensure that periodic spot checks of compliance with and the effectiveness of the Permit to Work System are completed. These must be frequent enough to maintain control of the Permit to Work System and confirm that:

- Permits are properly displayed at the worksite.
- Permits have been properly completed.
- Required safety equipment is in place.
- Safety precautions listed on the permit are adequate and are in place.

4.17 EMERGENCY CANCELLATION/SUSPENSION OF A PERMIT

In an emergency work will cease. The PIC has the authority to cancel/suspend a permit to work after ensuring that it is safe to do so. All copies of the work permit will be returned to the Permit Coordinator.

4.18 SHIPYARD-SPECIFIC PERMIT REQUIREMENTS

- Upon entering shipyard for service, the shipyard responsible person and PIC shall meet to determine who is responsible for issuing a Permit to Work.
- If the shipyard is responsible, the PIC is advised that a Permit to Work has been issued.
- If the PIC is responsible, the shipyard is advised that a permit is in effect.
- For work performed outside of the shipyard scope requiring a Permit to Work, the PIC issues a permit as outlined in this procedure.

5.0 ROLES AND RESPONSIBILITIES

The following section details various positions' roles and responsibilities as they relate to the Permit to Work System.

5.1 PERSON IN CHARGE (PIC)

The PIC is responsible to the Operations/Rig Manager for the safety of personnel and facilities within his area of responsibility and for the effective implementation of the Permit to Work System. This includes the following:

- Controlling and coordinating all work that may be performed on the facility within his area of responsibility
- Controlling the issuance, return, or suspension of all permits to work
- Providing a secure process for the electrical or mechanical isolation of equipment
- Designating the Permit Coordinators
- Designating the location of the Permit Control Center
- Appointing all permit administrators for the facility

The PIC must control risk by ensuring that activities undertaken do not conflict with other activities, areas, or departments, and that all personnel work under the procedures established by the Permit to Work System are competent to do so and understand the system. The PIC must regularly audit and evaluate the use and effectiveness of the Permit to Work System and endorse all work permits. (This role may be delegated.) In addition, the PIC must review all completed permits for the previous month and make sure those permits are deleted from the Permit to Work Control Log Sheet. This can be done at the end of each month.

5.2 PERMIT COORDINATOR

The Permit Coordinator is responsible for the following:

- Coordinating and controlling the issue and return of all work permits and isolation documents from the Permit Control Center
- Ensuring that no conflicts exist with other work
- Logging all permits and the status of all permits in the permit logbook located in the Permit Control Center
- Maintaining the permit board, making sure it is up to date with all outstanding permits relating to planned, suspended, or in-progress work
- Maintaining a log of all isolations in effect on the permit board

- Issuing all safety padlocks and maintaining a log in the Permit Control Center of all safety padlocks in use and names of all key holders. (Note: This activity may be designated to the Chief Electrician or Chief Engineer. If this is the case, this should be recorded on the Appointment of Permit Signatories).
- Ensuring that work permits are duly signed off and correctly filed
- Endorsing on the work permit that the permit has been reviewed and that it complies with all requirements of the ENERGEAN Permit to Work System
- Filing and archiving all completed permits

5.3 PERMIT ORIGINATOR

This person applies for the Permit to Work and is responsible for the following:

- Ensuring that a permit is properly requested
- Completing these sections on the permit before obtaining authorizations from the Area Supervisors and other required signatories:
  - Work scope
  - Personnel protection and special precautions

5.4 AREA SUPERVISOR

The Area Supervisor is responsible for the following:

- Ensuring the safety of personnel and company assets within his or her area of responsibility
- Ensuring that personnel clearly understand the scope of work to be performed
- Completing, monitoring, and endorsing the associated isolations identified on the Preparation/Isolation Permit
- Appointing a competent person to carry out isolation per the Preparation/ Isolation Permit when required
- Completing, monitoring, and endorsing all work permits for work within his or her area of responsibility
- Validating that all requirements stated in the Permit to Work have been complied with before allowing work to begin
- Notifying everyone affected by work activities of when work begins, is suspended, and is completed
- Endorsing the permit to confirm that precautions and protections stated on the permit have been personally checked and that it is safe to perform the work
- Ensuring that the worksite is safe and inspected at the completion of the work

5.5 PERSON IN CHARGE OF WORK

The person in charge of work is responsible for the following:

- Ensuring the safety of personnel and facilities affected by the Permit to Work issued to them
- Completing the section of the Permit to Work applicable to the person in charge of work
- Reviewing the scope of work and required precautions and isolations with the Area Supervisor
- Ensuring that all personnel working under the Permit to Work know the scope of the work and the precautions and limitations stated on the Permit to Work
- Ensuring that the limitations, precautions, and isolations stipulated on the permit are adhered to during the duration of the work
- Posting a copy of the Permit to Work at the job site
- Maintaining the worksite in a clean and safe condition at all times
- Ensuring that the worksite is left in a safe and clean condition upon completion or suspension of the work and that the Area Supervisor is informed of the status
- Endorsing the permit to show that all precautions taken are understood, that it is safe to perform the work, and that the personnel performing the work know precautions

5.6 THIRD-PARTY SUPERVISION

Third-party contractor supervisors are responsible for the following:

- Understanding the Permit to Work System administered by ENERGEAN for the locations where their employees are to work
- Training their employees to understand the requirements of the Permit to Work System
- Ensuring that all work is accomplished within the stipulations of the Permit to Work, and that all precautions, limitations, and isolations are complied with
- Reviewing scope of work and permit requirements with the Area Supervisor in charge of the area where they will be performing work
- Keeping the Area Supervisor updated on the status of the work at all times

5.7 ENERGEAN CONTRACTORS AND THIRD-PARTY PERSONNEL

The following applies to all personnel who perform work on ENERGEAN facilities for which a Permit to Work is required:

- Everyone must adhere to all the requirements of the Permit to Work System.

- Before starting work, the supervisor in charge of the work must brief personnel as to the scope of the work to be performed, potential safety hazards, control measures to follow, and the limitations and requirements of the Permit to Work.
- Everyone must fully understand the requirements of the work permit, the hazards involved, and the precautions necessary to perform the work safely.
- All must follow and adhere to all requirements and instructions listed on the Permit to Work.
- If in doubt about any aspect of the work or the safety of personnel or equipment, or if conditions listed on the Permit to Work change, stop the work and review the situation with a supervisor.

6.0 LISTING OF PROCEDURES

Permit to Work Process	PTW 01-01
Preparation / Isolation Permit Process	PTW 02-02

PURPOSE

The purpose of this process is to ensure that, before personnel start any potentially hazardous work on ENERGEAN owned or operated facilities, a formal Permit to Work is issued, hazards are identified, and necessary actions are taken to mitigate the hazards.

SCOPE

This procedure applies to all work performed on facilities by ENERGEAN personnel, contractors, or third parties.

RESPONSIBILITIES

The HSE Manager is responsible for the administration, interpretation, and maintenance of this Permit to Work Process.

REFERENCES

Preparation/Isolation Permit Process

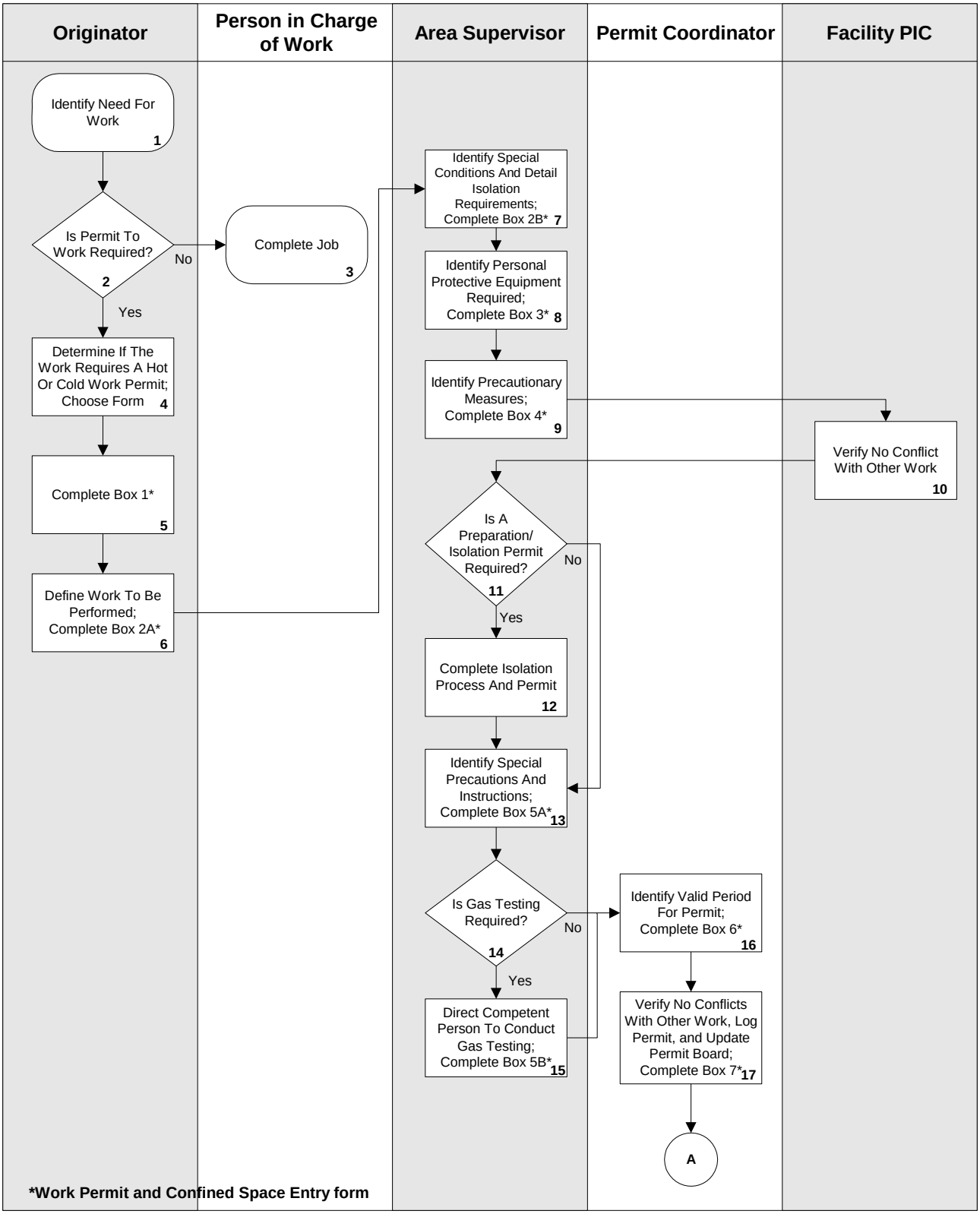
Permit to Work Control Log sheet

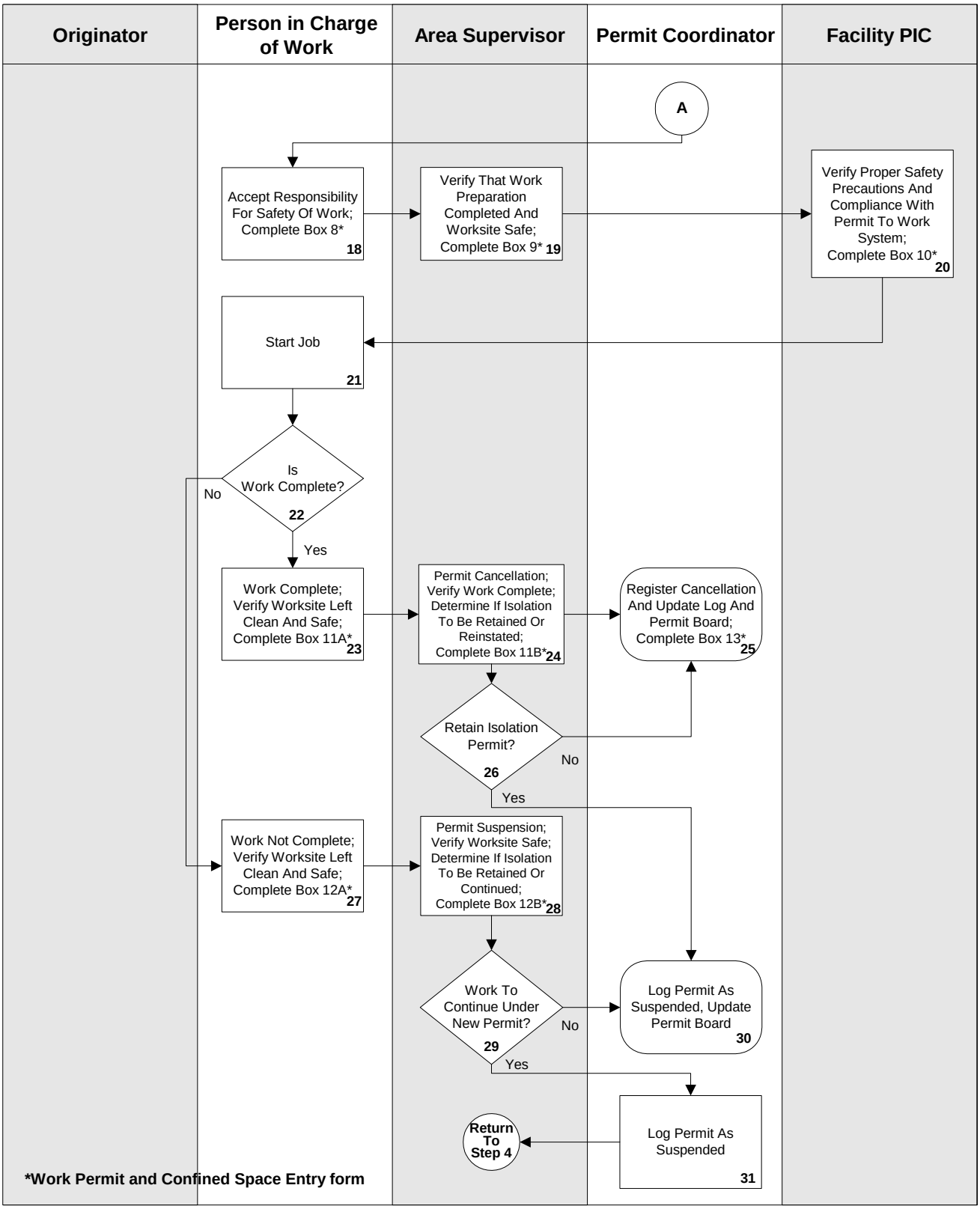
Hot Work Permit and Confined Space Entry

Cold Work Permit and Confined Space Entry

Preparation/Isolation Permit

PROCESS MAP AND DESCRIPTION




Originator
Person in Charge of Work
Area Supervisor
Permit Coordinator
Facility PIC
A
Accept Responsibility For Safety Of Work; Complete Box 8* 18
Verify That Work Preparation Completed And Worksite Safe; Complete Box 9* 19
Verify Proper Safety Precautions And Compliance With Permit To Work System; Complete Box 10* 20
Start Job 21
Is Work Complete? 22
No
Yes
Work Complete; Verify Worksite Left Clean And Safe; Complete Box 11A* 23
Permit Cancellation; Verify Work Complete; Determine If Isolation To Be Retained Or Reinstated; Complete Box 11B* 24
Register Cancellation And Update Log And Permit Board; Complete Box 13* 25
Retain Isolation Permit? 26
No
Yes
Work Not Complete; Verify Worksite Left Clean And Safe; Complete Box 12A* 27
Permit Suspension; Verify Worksite Safe; Determine If Isolation To Be Retained Or Continued; Complete Box 12B* 28
Work To Continue Under New Permit? 29
No
Yes
Log Permit As Suspended, Update Permit Board 30
Log Permit As Suspended 31
Return To Step 4
*Work Permit and Confined Space Entry form

Step #	Process Step	Description
1	Identify Need For Work	Originator: • Identify the need for work.
2	Is Permit To Work Required?	Originator: Determine if a work permit is required. If yes, go to Step 4, "Determine If The Work Requires A Hot Work Or Cold Work Permit; Choose Form." If no, go to Step 3, "Complete Job." Note: Work permits typically are required for all non-routine work. Non-routine work requiring a work permit includes all activities that are outside the regular operation of the rig. Work permits are required for the following activities: – Entry into a confined space – Hot work in any area except inside welding shop – Well-service operations – Any work that directly affects critical safety systems – Any construction work, overhauls, or repairs on systems or equipment in classified areas – Work by contractors in classified areas – Hydrostatic or pneumatic-pressure testing – Activities involving radioactive sources such as non-destructive testing – Activities being performed when a known hazard exists such as isolation – Any work the PIC determines is non-routine and requires a work permit – Work carried out in the derrick (except routine jobs performed by the Derrickman) or oth3er work at height. – Work over water. – Use of non-IS electrical test equipment Note: Work permits normally are not required for the following type of work: – Routine operations, including start-ups, changes in operational modes, and shutdowns; first-line maintenance conducted by operations personnel such as topping up oil-water or tuning controllers – Work in designated maintenance or construction shops – Work to control or prevent the escalation of an emergency

*Work Permit and Confined Space Entry form

Step #	Process Step	Description
3	Complete Job	Person in Charge of Work: • Complete the job.
4	Determine If The Work Requires A Hot Or Cold Work Permit; Choose Form	Originator: • Determine if the work requires a Hot Work Permit and Confined Space Entry form or a Cold Work Permit and Confined Space Entry form) based on the following criteria: – Hot work is not permitted on equipment containing flammable or combustible material because hot work is work involving an open flame or other positive ignition sources or any work that involves a potential source of ignition. – A Cold Work Permit is required to perform any hazardous work or work on critical safety and emergency systems.
5	Complete Box 1*	Originator: • Complete Box 1 on the Work Permit and Confined Space Entry form to start the Permit to Work Process: – Name – Company – Job title/trade – Rig worksite – Location – Equipment to be worked on
6	Define Work To Be Performed; Complete Box 2A*	Originator: • Complete Box 2A on the Work Permit and Confined Space Entry form. • Briefly describe the work and whether electrical work is involved. – Give enough detail for a thorough assessment of the necessary precautions. – Note any special equipment to be used, especially where it may involve hazardous work. • Identify if Preparation / Isolation Permit is required.

*Work Permit and Confined Space Entry form

Step #	Process Step	Description
7	Identify Special Conditions And Detail Isolation Requirements; Complete Box 2B*	Area Supervisor: • Complete Box 2B on the Work Permit and Confined Space Entry form. • Detail any special conditions, such as isolation and confined space entry requirements, and include: – Details of isolation – Isolation methods – Preparation/reinstatement permit isolation number
8	Identify Personal Protective Equipment Required; Complete Box 3*	Area Supervisor: • Complete Box 3 on the Work Permit and Confined Space Entry form. • Indicate the requirements for personal protection equipment and other equipment at the worksite to ensure the safety of personnel
9	Identify Precautionary Measures; Complete Box 4*	Area Supervisor: • Complete Box 4 on the Work Permit and Confined Space Entry form. • Ensure that all necessary preparations, precautionary measures, equipment, tools, and procedures such as isolation, depressurization, purging, cleaning, scaffolding, gas testing, fire watch, PA announcement, standby vessel, and others stated, including the provision of special equipment, are on the permit.
10	Verify No Conflict With Other Work	Facility PIC: • Verify there is no conflict with other work.
11	Is A Preparation/Isolation Permit Required?	Area Supervisor: • Determine if a Preparation/Isolation Permit is required. If yes, go to Step 12, “Complete Isolation Process and Permit.” If no, go to Step 13, “Identify Special Precautions And Instruction; Complete Box 5A*.”

*Work Permit and Confined Space Entry form

Step #	Process Step	Description
12	Complete Isolation Process And Permit	Area Supervisor: • Determine if it is a confined space and if so, make sure that necessary confined space precautions are taken. • Complete the Preparation/Isolation Permit in accordance with the Preparation/Isolation Permit Process. • Appoint a competent person to carry out all isolations (e.g., for electrical isolations, the competent person is the Electrical Supervisor)
13	Identify Special Precautions And Instructions; Complete Box 5A*	Area Supervisor: • State any special precautions and instructions in Box 5A on the Work Permit and Confined Space Entry form necessary to work safely, and list any potential hazards.
14	Is Gas Testing Required?	Area Supervisor: • Determine if gas testing is required. If yes, go to Step 15, “Direct Competent Person To Conduct Gas Testing; Complete Box 5B*.” If no, go to Step 16, “Identify Valid Period For Permit; Complete Box 6*.”
15	Direct Competent Person To Conduct Gas Testing; Complete Box 5B*	Area Supervisor: • Enter the result of the gas test in Box 5B on the Work Permit and Confined Space Entry form. • Sign off and date the gas test, ensuring the area does contain the free-entry percentage permitted, the restricted-entry permit readings, result, and time taken. • List the type of gas, percentage lower explosive limit (LEL) reading, number of hourly gas tests required, and time reading was taken and signed. • Take the permit to the Permit Coordinator, who checks that the permit is complete. • Complete Box 5B in the event of a confined space entry or need to perform gas testing. • Refer to the Safety Checklists. • Name the person responsible for communicating with a third-party contractor.
16	Identify Valid Period For Permit; Complete Box 6*	Permit Coordinator: • Determine the valid period for the permit and enter it into Box 6 on the Work Permit and Confined Space Entry form. Note: Maximum period a permit is valid is 12 hours or to the end of the tour on which it was issued.

*Work Permit and Confined Space Entry form

Step #	Process Step	Description
17	Verify No Conflicts With Other Work, Log Permit, And Update Permit Board; Complete Box 7*	Permit Coordinator: • Complete Box 7 on the Work Permit and Confined Space Entry form. • Check that there are no conflicts with existing permits. • Fill out the Permit to Work Control Log sheet including details of any isolation, PIP number, and other pertinent information. • Place a coloured (red, blue, green, yellow) mark on the permit board (this colour will represent area/system affected and type of permit issued). • Ensure that there are not any potential conflicts between the new permit and the other work in progress. • Indicate that the work does not conflict with work currently in progress.
18	Accept Responsibility For Safety Of Work; Complete Box 8*	Person in Charge of Work: • Sign and date the permit in Box 8 on the Work Permit and Confined Space Entry form after making sure that: – The work and precautions are understood – All personnel are fully briefed on the work and necessary precautions – All precautions have been observed – The permit is on display at the worksite whenever work is in progress – There is a valid endorsement of the permit for each period in which work takes place and each endorsement is taken to the PCC for revalidation – The worksite and equipment affected by the work are left in a safe condition at each shift change and on completion or suspension of the work
19	Verify That Work Preparation Completed And Worksite Safe; Complete Box 9*	Area Supervisor: • Sign Box 9 on the Work Permit and Confined Space Entry form to declare the worksite safe for the work defined on the permit. • Issue the permit to the person in charge of work.
20	Verify Proper Safety Precaution And Compliance With Permit To Work System; Complete Box 10*	Facility PIC: • Sign off the permit, Box 10 on the Work Permit and Confined Space Entry form, after ensuring that safety precautions are adequate and that the work does not interfere with any other operations. • Have the Area Supervisor verify this information.

*Work Permit and Confined Space Entry form

Step #	Process Step	Description
21	Start Job	Person in Charge of Work: • Make sure all personnel working under the Permit to Work issued to them understand the scope of the work and the precautions and limitations stated on the Permit to Work • Make sure personnel follow the limitations, precautions, and isolations stipulated on the permit during the work. • Post a copy of the Permit to Work at the jobsite. • Maintain the worksite in a clean and safe condition at all times. • Complete the work under the conditions stated on the permit.
22	Is Work Complete?	Person in Charge of Work: • Determine if the work is complete. If yes, go to Step 23, "Work Complete; Verify Worksite Left Clean And Safe; Complete Box 11A*." If no, go to Step 27, "Work Not Complete; Verify Worksite Left Clean And Safe; Complete Box 12A*."
23	Work Complete; Verify Worksite Left Clean And Safe; Complete Box 11A*	Person in Charge of Work: • Sign Box 11A on the Work Permit and Confined Space Entry form indicating that the work is completed properly and that the area is safe and clean.
24	Permit Cancellation; Verify Work Complete; Determine If Isolation To Be Retained Or Reinstated; Complete Box 11B*	Area Supervisor: • Complete and sign Box 11B on the Work Permit and Confined Space Entry form. • Delete the inappropriate statements to indicate one of the following: – The work is complete and the equipment and worksite are restored to normal. – The work is complete and the equipment and worksite is safe and clean, but the isolation involved is retained.
25	Register Cancellation And Update Log And Permit Board; Complete Box 13*	Permit Coordinator: • Ensure all required signatures are on the permit, that all necessary documentation is returned and assembled for archiving, and then sign Box 13 on the Work Permit and Confined Space Entry form.
26	Retain Isolation Permit?	Area Supervisor: • Decide whether to retain the isolation permit. If yes, go to Step 30, "Log Permit As Suspended, Update Permit Board." If no, de-isolate equipment and go to Step 25, "Register Cancellation And Update Log And Permit Board, Complete Box 13*."

*Work Permit and Confined Space Entry form

Step #	Process Step	Description
27	Work Not Complete; Verify Worksite Left Clean And Safe; Complete Box 12A*	Person in Charge of Work: • Determine that worksite is clean and safe and the work is not complete. Note: If an emergency alarm sounds, all permits are considered "suspended." • Sign off the permit, Box 12A on the Work Permit and Confined Space Entry form, in the "Work Not Completed" section if the work suspension will last longer than the duration of the permit. • Give the permit to the Area Supervisor, who returns it to the Permit Control Centre, where it will be placed on the permit board in the section "Permit Suspended." Note: When a permit is suspended, only the isolation section of the permit remains in "open" status.
28	Permit Suspension; Verify Worksite Safe; Determine If Isolation To Be Retained Or Continued; Complete Box 12B*	Area Supervisor: • Complete Box 12B on the Work Permit and Confined Space Entry form when permit work is not complete. • Determine the following: – The work is to be transferred to a succeeding permit – The work is complete and the equipment and worksite are in a safe and clean condition, but that the isolation involved has been retained
29	Work To Continue Under New Permit?	Area Supervisor: • Determine if work is to continue under a new permit. If yes, go to Step 31, "Log Permit As Suspended." If no, go to Step 30, "Log Permit As Suspended, Update Permit Board."
30	Log Permit As Suspended, Update Permit Board	Permit Coordinator: • Collect all copies of the permit and place them on the permit board under the section "Permit Suspended."
31	Log Permit As Suspended	Permit Coordinator: • Issue new permit to continue work; attach the old permit to the new permit. • Return to Step 4, "Determine If Work Requires A Hot Or Cold Work Permit; Choose Form."

*Work Permit and Confined Space Entry form

PURPOSE

The purpose of this process is to ensure that when it is time for personnel to work, equipment is properly isolated, de-energized, depressurized, and safe to use.

SCOPE

This procedure applies to all work performed on facilities by ENERGEAN personnel, contractors, or third parties and is used in conjunction with the Permit to Work Process.

RESPONSIBILITIES

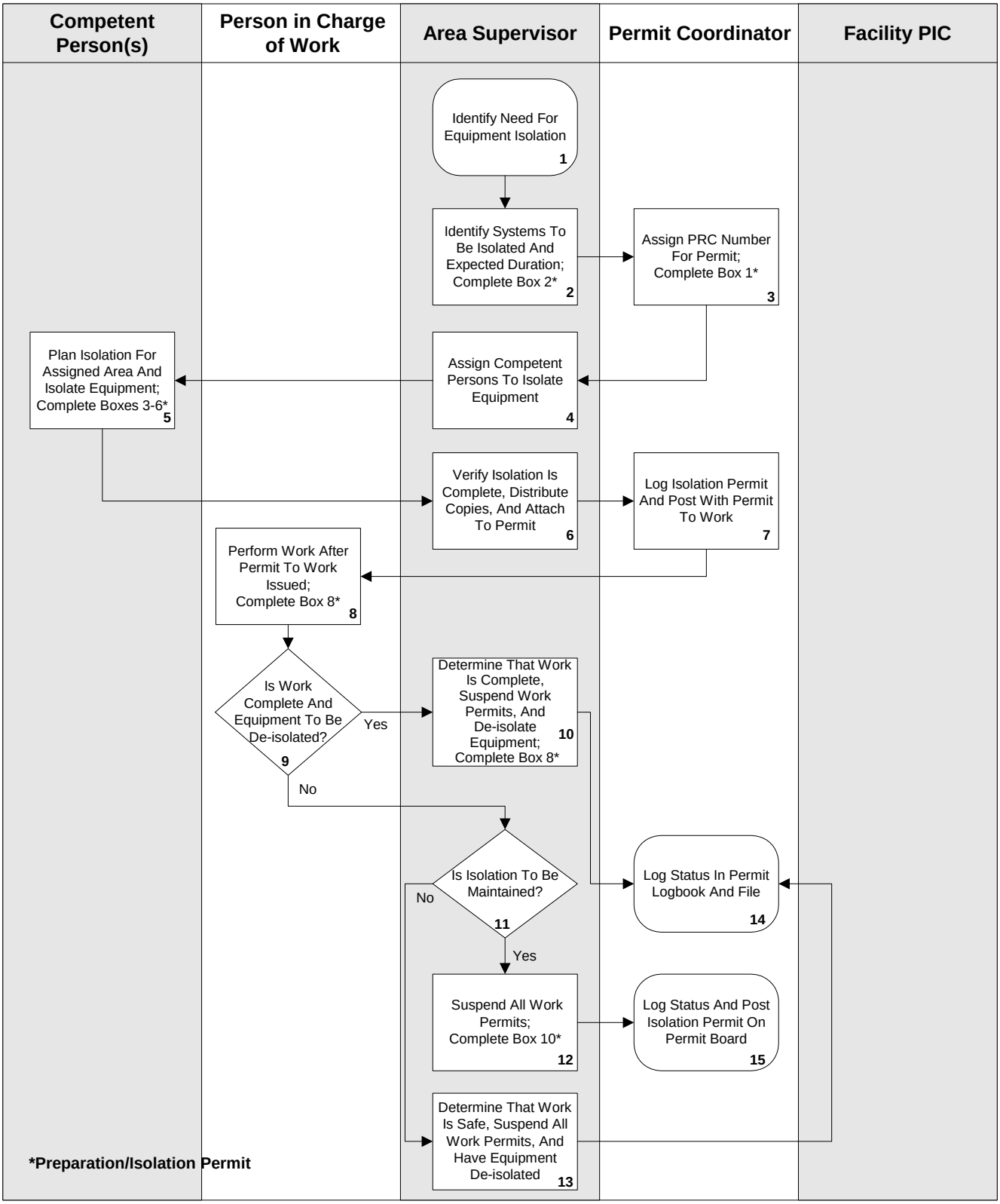
The HSE Manager is responsible for the administration, interpretation, and maintenance of this Preparation / Isolation Permit Process.

REFERENCES

Permit to Work Control Log sheet

Preparation / Isolation Permit

PROCESS MAP AND DESCRIPTION



Step #	Process Step	Description
1	Identify Need For Equipment Isolation	Area Supervisor: • Determine, based on the scope of work identified on the Permit to Work, what equipment needs to be isolated electrically, mechanically, or hydraulically.
2	Identify Systems To Be Isolated And Expected Duration; Complete Box 2*	Area Supervisor: • Review the scope of work stipulated on the Permit to Work to determine equipment that requires isolation for the work to be accomplished safely. • Complete Box 2 of the Preparation/Isolation Permit with the following information: – Name and title of Area Supervisor requesting the isolation – Plant/system to be worked on – Scope of work to be accomplished – Duration of the work – Action to isolate the equipment • Assign the competent person(s) to perform the isolations and list their names in: – Box 3: Hydraulic Isolation – Box 4: Electrical Isolation – Box 5: Mechanical Isolation – Box 6: Safety/Emergency System Isolation
3	Assign PIP Number For Permit; Complete Box 1*	Permit Coordinator: • Assign the PIP number to the Preparation/Isolation Permit. • Include the number of the Permit to Work.
4	Assign Competent Persons To Isolate Equipment	Area Supervisor: • Direct the competent person(s) identified in Step 2 to perform the necessary isolation Note: Isolation tags indicate all points of isolations. For example: "DANGER DO NOT USE OR OPERATE"
5	Plan Isolation For Assigned Area And Isolate Equipment; Complete Boxes 3-6*	Competent Person(s): • Isolate the equipment. • Detail the isolation in the appropriate areas of Boxes 3-6.

*Preparation/Isolation Permit

Step #	Process Step	Description
6	Verify Isolation Is Complete, Distribute Copies, And Attach To Permit	Area Supervisor: • Verify that the isolations identified on the permit are complete. • Attach a copy of the Preparation/Isolation Permit to each copy of the Permit to Work. – Original – Permit Control Centre (PCC) – Copy 2 – Worksite – Copy 3 – Area Supervisor • Work may start once the Permit to Work is issued.
7	Log Isolation Permit And Post With Permit To Work	Permit Coordinator: • Log status of Preparation/Isolation Permit in Permit to Work Control Log sheet. • Verify that the Isolation Permit is attached to PCC copy of the Permit to Work and post on the Permit to Work Board.
8	Perform Work After Permit To Work Issued; Complete Box 8*	Person in Charge of Work: • Start the job, after all approvals are obtained, per the requirements of the Permit to Work System. • Complete Box 8 on the Preparation/Isolation Permit stating that the work is completed or suspended; all copies of the permit should be signed.
9	Is Work Complete And Equipment To Be De-isolated?	Person in Charge of Work: • Verify that the work is complete and equipment is de-isolated. If yes, go to Step 10, “Determine That Work Is Complete, Suspend Work Permits, And De-isolate Equipment; Complete Box 8*.” If no, go to Step 11, “Is Isolation To Be Maintained?”
10	Determine That Work Is Complete, Suspend Work Permits, And De-isolate Equipment; Complete Box 8*	Area Supervisor: • Verify that the work is complete and the worksite is clean and safe. • Suspend all Permit to Work associated with the Preparation/Isolation Permit per the Permit to Work System. • Sign all copies of the Preparation/Isolation Permit in the designated area in Box 8. • Designate the competent person(s) to de-isolate the equipment. • Go to Step 14, “Log Status In Permit Logbook And File.”

*Preparation/Isolation Permit

Step #	Process Step	Description
11	Is Isolation To Be Maintained?	Area Supervisor: • Determine if isolation is to be maintained. If yes, go to Step 12, "Suspend All Work Permits; Complete Box 10*." If no, go to Step 13, "Determine That Work Is Safe, Suspend All Work Permits, And Have Equipment De-isolated." Note: Isolation may be maintained for an extended period for the following reasons: – Work has begun but is, or is likely to be, suspended for a period exceeding the valid period of the permit (e.g., waiting on spare parts) – Equipment is no longer used and needs a project authorization to remove it or a more permanent means of isolation
12	Suspend All Work Permits; Complete Box 10*	Area Supervisor: • Make sure that the worksite is clean and safe. • Suspend the Permit to Work associated with the isolation. • Sign all copies of the Preparation/Isolation Permit in Box 10 and forward them to the Permit Coordinator.
13	Determine That Work Is Safe, Suspend All Work Permits, And Have Equipment De-isolated	Area Supervisor: • Verify that the work is complete and the worksite clean and safe. • Suspend all Permit to Work activity associated with the Preparation/Isolation Permit per the Permit to Work System • Sign all copies of the Preparation/Isolation Permit in the designated area in Box 8. • Designate the competent person(s) to de-isolate the equipment.
14	Log Status In Permit Logbook And File	Permit Coordinator: • Log the status of all de-isolations in the Permit to Work Control Log sheet. • File the Preparation/Isolation Permit with the completed/suspended Permit to Work
15	Log Status And Post Isolation Permit On Permit Board	Permit Coordinator: • Log the status of all Preparation/Isolation Permits where the isolation is to be maintained. • Post the Preparation/Isolation Permit on the permit board.

*Preparation/Isolation Permit

APPENDIX A – PERMIT TO WORK TRAINING

No one may work as a Permit Administrator, person in charge of work, or undertake work covered by a permit without first successfully completing the appropriate Permit to Work (PTW) training.

TRAINING OBJECTIVE

The objective is to train all individuals in the principles of the PTW System and to ensure that they understand the system. Training methods include:

- Induction training
- Permit to Work Training
- Training in operating procedures
- On-the-job training

CERTIFICATION AND AUTHORIZATION

Certification means that personnel have learned the procedures of the PTW system appropriate to their situation and that they understand the reasons for it.

Authorization is the approval of these individuals to apply that knowledge to specific installations.

ASSESSMENT TESTS

All PTW training contains assessment tests to determine whether individuals have achieved the required level of understanding of the system.

Course participants must pass their tests before they can be certified.

All **Supervisors** must demonstrate knowledge and competence in the following:

- Rig and equipment layout
- The process taking place (e.g., completion, drilling)
- Potential hazards
- Means of mitigating hazards before issuing a permit
- Specific responsibilities associated with issuing permits
- Applicable legal requirements
- Energean rules applying to operation of the Permit to Work System

- How to use of all the forms and records associated with the Permit to Work System
- Shift handover requirements
- How to handle an emergency
- Training requirements
- Auditing and monitoring requirements

The **person in charge of work** must demonstrate knowledge and competence in the following:

- Identifying potential hazards existing in the workplace
- Precautions required before beginning work
- Specific responsibilities of a task supervisor
- Shift handover requirements
- How to handle an emergency
- Permit to Work training requirements for the job and for members of the work team

All other members of the rig crew acting within the Permit to Work System should receive instructions on the specific procedures as they apply on the rig. This should consist of a general overview of the Permit to Work System and their specific rig crew member responsibilities.

Key personnel should be reassessed periodically.

Visiting specialists who arrive at the rig for a specific task under the Permit to Work System will be instructed on the PTW System and supervised from a PTW viewpoint until the task is completed and the work site handed back to a KCA DEUTAG supervisor.

CERTIFICATION

Individuals who successfully complete the course receive a PTW certificate of training. It contains a person's name and details and is entered in the formal training register. All other personnel who undergo the training session on the installation have their names recorded on an attendance sheet. They must retake this training after a 6-month absence from an ENERGEAN rig.

APPENDIX B – MECHANICAL ISOLATION

INTRODUCTION

The administrative requirements for electrical isolation are covered in Appendix C.

Mechanical devices and methods such as valves, blinds, spool pieces, removable pipe lengths or bends, and physical pipe displacement on small bore pipes are all ways of physically isolating equipment for maintenance or repairs, as are physical blocks or chocks on rotating or moving machinery or other devices.

Where a valve or similar device is used as part of an isolation, secure it with a positive-locking system.

Always follow the principle of "the greater the risk involved, the more effective the method of isolation to use."

Note: If applicable, use the Electrical Isolation Procedure (Appendix C) first.

Always consider a second, independent means of isolation.

REQUIREMENTS

Requirements for mechanical isolation methods follow:

- For adequate isolation, use one or more of the devices above to physically isolate the work.
- For secure isolation, use chain, locks, seals, or other locking devices and erect barriers to prevent unauthorized access to the work area or isolation point. In extreme cases, post a watch when risk to life could be involved.
- Correctly and clearly identify with a permanent marker all valves, spool pieces, and blinds used in a mechanical isolation.

Additionally,

- Any secondary device used for isolation, such as blinds, must be of suitable material, temperature, and pressure rating for the medium it is isolating.
- The isolation procedure should not be more dangerous than the exercise it is designed to safeguard.
- Consider accessibility before installing isolation devices.
- Always vent pressure off the isolated area of the system and verify that the pressure has been vented.
- Use the highest isolation standard reasonably practicable.

METHODS OF ISOLATION

Methods of isolation follow:

- Single Valve - Suitable for low-pressure water lines and similar applications, and other un-pressurized systems.
- Double Valve with Intermediate Venting (block and bleed) - Used as short-term isolation where flammable liquids or gases are present until blinds are fitted downstream.
- Blinds or Physical Disconnection - Normal standard where work will be conducted on a pressurized system or an extended period of isolation is required.

Note: Two methods of isolation may be required where hazards exist.

MATERIALS

Materials for isolation follow:

- High-strength chain of suitable size and length with security padlocks the chain may also delineate restricted areas along with warning notices
- Isolation tags with numbers aid in isolation identification are of a highly visible color, and have padlock shank eyelet holes
- Security seals in lieu of padlocks in some circumstances, even as long-term isolation in exposed areas
- Warning notices for isolated systems and for restricted areas

SAFETY PADLOCKS

Use safety padlocks to isolate an apparatus for work to be performed under a permit and not available for normal service. Each lock is color coded and its associated keys clearly identified.

According to both the mechanical and electrical isolation procedures, padlocks must comply with the following:

- All keys of safety padlocks used to secure isolations are retained in a lockout box until the work permit has been checked.
- The Permit Coordinator (or designate) is responsible for the control and issue of safety padlocks and keys.
- A register of padlocks and key holders is maintained by the Permit Coordinator or designate.

APPENDIX C – ELECTRICAL ISOLATION (LOCKOUT/TAGOUT)

The administrative requirements for mechanical isolation are covered in Appendix B. The following are the specific rules for isolation of electrical equipment:

- Only an Enegean Competent Electrical Person can perform electrical isolations.
- Lock all electrical equipment isolated under a Permit to Work in the isolated state with a safety padlock or equipment mounted interlock unless there is no means of locking out the device.
- Remove the supply fuses and disconnect the cable to isolate circuits that cannot be locked out.
- Disconnect the outgoing (load) cable from the breaker, coil back, and tape to prevent accidental reconnection when isolating LV apparatus, conductors, or equipment supplied from moulded case or miniature circuit breakers that cannot be padlocked in the open or isolated position.
- Pay particular attention to the isolation of voltage transformers and of control and instrumentation circuits, which may form a part of the isolation requirements but are powered from a different source from that of the main supply. Review all applicable schematics and one-line diagrams to ensure that all sources are identified.
- Prove that the circuit is dead before starting work. Depending on the design of the system, check that the circuit is de-energized either after the breakers have been set at the grounding position on integral ground systems or before the installation of ground straps or portable ground leads on non-integral ground systems. Verify that the voltage indicator is working both before and after the test.
- Do not perform work on one-half of a switchboard when the other half is live. Most electrical switchboards are not designed for maintenance of one half when the other half is live, except for non-contact procedures such as infrared scanning.

LOCKOUTS

Safe electrical isolation depends on maintaining control of the safety key that ensures that the particular circuit cannot be de-isolated and the main circuit safety grounds cannot be removed. Follow these rules when using lockouts:

- Ensure each safety padlock is uniquely keyed and the padlock and its associated key are clearly identified.
- Use integral equipment lockouts when available, provided each lock has a unique key and is linked either mechanically or electrically to the equipment in such a way that by the operation of the lock, the equipment cannot be operated. In some cases, the removal of the key secures the equipment in a safe condition.

- Post isolation tags at the lockout points as follows:
  - Use tags that are designated for use with the Permit to Work System.
  - Locate the tags so that it is clear which equipment is isolated.
  - Attach a tag at each control station for equipment that is remotely or automatically operated.
- The Permit Coordinator or an appropriate authorized person is responsible for the control and issue of safety padlocks and keys.
- Place the safety padlock keys, equipment-mounted interlock keys, and control fuses concerned with the isolation and safety grounds in a lockout box, with one key of the lockout box held by the person in charge of the work while the work is in progress.
- All keys of safety padlocks and equipment-mounted interlocks used to secure isolations shall be retained in a lockout box until the Permit to Work is cleared. The lockout box is to be under strict control of the Permit Coordinator or person designated by the PIC.
- Equipment that is isolated and grounded for work shall remain so until the Permit to Work has been cleared and returned to the responsible supervisor for cancellation. In the case of work under a sanction for test, the recipient of the permit for test shall hold these keys.

ELECTRICAL ISOLATION FOR NON-ELECTRICAL WORK

Electrical isolation for non-electrical work must always be performed under the electrical section of the Permit to Work and approved by the responsible supervisor of the equipment being isolated. The responsible supervisor assigns a Competent Electrical Person to conduct the electrical isolation. The electrical isolation must be completed before starting the mechanical isolation.

When the work is complete, the person in charge of the work, after checking the worksite, signs the clearance on the Permit to Work and gives it to the Area Supervisor, PIC, or designated authority.

When de-isolating, the mechanical de-isolation is performed first, followed by the electrical de-isolation. When electrical de-isolation is required, the area supervisor, PIC, or his or her designated authority assigns a competent electrical person and instructs him or her to obtain clearance from the permit control centre to de-isolate the circuit. The Competent Electrical Person then collects the safety key and de-isolates the circuit.

SAFETY GROUNDS

Only a Competent Electrical Person acting under the direct personal supervision of the Rig Electrician or Chief Engineer operates any grounding switch or breaker or

attaches or removes any bus bar main ground. Follow these rules for safety grounds used for electrical isolation:

- Record the location of each ground connection in the electrical isolation section of the permit.
- Isolate the circuit or bus bar at all possible points of supply before a main ground is applied and prove it to be dead by using an approved voltage indicator.
- Check that the voltage indicator is working both before and after the test.
- Use a circuit breaker or ground switch, where possible, to make the ground connection.
- When a circuit breaker with integral ground is used, render the trip unit on the circuit breaker inoperative before closing. Prevent the circuit breaker or switch from opening by locking it using a safety padlock or equipment-mounted interlock.

Follow these rules when installing safety grounds using portable grounding leads or straps under the applicable Permit to Work:

- Use only correctly rated ground straps or portable grounding leads approved by the switchboard manufacturer.
- Wear the correct safety equipment when installing safety grounds (i.e., suitably rated insulating gloves and boots, flame-retardant coveralls, and safety glasses).
- Stand on correctly rated insulated rubber matting when installing safety grounds.

RESTORATION

Follow these rules when the work is complete:

- De-isolation may only take place in conjunction with the Permit to Work System.
- Begin de-isolation only when permission to de-isolate has been obtained.
- Wear the correct safety equipment (i.e., suitably rated insulating gloves and boots, flame-retardant coveralls, and safety glasses) when removing safety grounds and racking in breakers onto a live bus.
- The Competent Electrical Person ensures that the isolation work site is left in a safe, clean, and tidy condition, with all tools and equipment removed as specified in the Permit to Work

HOT WORK PERMIT AND CONFINED SPACE ENTRY

Original	PERMIT CONTROL CENTER	PERMIT NUMBER
Copy 2	WORKSITE	
Copy 3	AREA SUPERVISOR	(issued by Rig)

Rig Name: _____

Box 6 PERMIT VALID

Time and Date Valid — From _____ Hours ____/____/__ To _____ Hours ____/____/__

Box 1 INSTRUCTIONS – ORIGINATOR COMPLETE THIS SECTION

Permit Originator's Name _____ Company _____ Trade _____
Rig Worksite _____ Location _____
Equipment to be Worked on _____

Box 2A ORIGINATOR COMPLETE THIS SECTION

Description of Work

_____
_____
_____

Electrical Work Involved? Yes ☐ No ☐ Preparation/Isolation Certificate Required? Yes ☐ No ☐

Box 2B AREA SUPERVISOR – COMPLETE THIS SECTION

	Yes	Comments
Reason for Entry/Details of Isolation		
Preparation/Isolation Permit No.		
Isolated By - Blanking		
- Disconnecting		
Electrical Isolation		

If Yes: Complete Preparation/Isolation Permit and attach to PERMIT

Box 3/4 AREA SUPERVISOR – COMPLETE THIS SECTION

Box 3 PROTECTIVE EQUIPMENT REQUIRED

Y	N	
		Ear Protection
		Respirator Protection
		Inertia Reels
		Safety Harness
		Life Jacket/Work vest
		Breathing Apparatus
		Chemical Gloves
		Eye Protection
		Helmets/Boots/Coveralls
		Fire Extinguisher
		Fire Blanket
		Fire Hose
		Fire Watcher

Name of Fire Watcher(s) _____

Box 4 PRECAUTIONARY MEASURES REQUIRED

	Tick	PIP Number
☐ Electrical Isolation		
☐ Mechanical Isolation		
☐ Safety Meeting		
☐ Tool Box Meeting		

- ☐ Client to Inform
- ☐ Client Authorization
- ☐ Standby Boat to Notify
- ☐ Emergency Equipment Isolation
- ☐ Public Address Announcement
- ☐ Fire/Rescue Team to Alert
- ☐ First Aid Assistance
- ☐ Rescue Boat
- ☐ Water Curtain
- ☐ Job Safety Analysis
- ☐ Special Procedure to Set Up
- ☐ Installing Lock-Outs
- ☐ Signaling
- ☐ Control Isolation
- ☐ Cleaning the Area
- ☐ Restricting the Area
- ☐ Zoning Off the Area
- ☐ Installing Barriers
- ☐ Venting the System
- ☐ Gas Freeing
- ☐ Grounding, Bonding
- ☐ Radio Silence
- ☐ Procedures
- ☐ Other _____

Equipment and Tools

- ☐ Fire Detector
- ☐ Firefighting Equipment
- ☐ Gas Detector
- ☐ Blowers, Extractors
- ☐ Scaffolding
- ☐ Ladders
- ☐ Power Tools
- ☐ Electrical Tools
- ☐ Arc Welding Equipment
- ☐ Cutting/Welding Torch
- ☐ Grinder, Buffer
- ☐ Needle Gun
- ☐ Handheld Radio
- ☐ Crane
- ☐ Forklift
- ☐ Personnel Basket
- ☐ Ammeter
- ☐ Voltmeter
- ☐ Electrical Rescue Equipment
- ☐ Access/Egress
- ☐ Electrical Test Equipment
- ☐ Lighting
- ☐ Insulated Tools
- ☐ Pressure Gauge

Box 5A SPECIAL PRECAUTIONS/INSTRUCTIONS TO BE FOLLOWED

_____
_____

Box 5B GAS TESTS (QUALIFIED PERSON TO DO INITIAL GAS TEST)

Combustible			**Toxic**			**Oxygen Deficiency**	
Reading	% LEL	Time	Type of Gas		Reading	Reading	Time
Signature			Time	Signature		Signature	
Reading	% LEL	Time	Type of Gas		Reading	Reading	Time
Signature			Time	Signature		Signature	

Tester's Name _____ Tester's Signature _____ Date _____

Repeat Gas Tests Every _____ Hours _____ Or Continuous Monitoring

Note: Tests must be conducted immediately prior to entry.		
Agent	Free Entry Permitted	Restricted Entry Permitted
Hydrocarbons	0 ppm MAX (0% of LEL)	1,400 ppm MAX (10% of LEL)
Oxygen	19.5 to 23.5%	16.5% to 19.5%

Note: Test must be conducted immediately prior to entry.		
Agent	Free Entry Permitted	Restricted Entry Permitted
Carbon Monoxide	50 ppm MAX	500 ppm MAX
Hydrogen Sulfide	10 ppm MAX	200 ppm MAX

Box 7 AUTHORIZATION: PERMIT COORDINATOR or RSTC

I have reviewed this permit. It complies with the requirements of the Energean Permit to Work Manual and does not conflict with other permits/work activity.

Permit Coordinator _____ (Print Name)
Signature _____
Date _____

Box 8 ACCEPTANCE: PERSON IN CHARGE OF WORKSITE

I understand the precautions to be taken and consider it safe to perform the work. I have informed the person performing the work of all precautions.

Person in Charge of Worksite (Print Name) _____ Person Performing Work (Print Name) _____
Signature _____ Signature _____
Date _____ Date _____

Box 9 APPROVAL: AREA SUPERVISOR

I have personally checked the precautions and protection stated on the permit and consider it safe to do this work.

Area Supervisor _____ (Print Name)
Signature _____
Date _____

Box 10 APPROVAL: PIC OR DESIGNATED AUTHORITY

I give authorization to commence the work as specified above and to continue it, provided the working conditions stated above remain the same.

PIC _____ (Print Name)
Signature _____ Other Signature(s) _____
Date _____ Date _____

Box 11 CANCELLATION

Box 11A WORK COMPLETED

Permit Returned By Person Doing the Work
Work Completed
Worksite and Equipment Left in Safe and Clean Condition
Name _____ Title _____ Time _____
Signed _____ Date _____

Box 11B PERMIT CANCELLATION BY AREA SUPERVISOR

Work Completed
Worksite Clean and Safe

- Reinstatement, De-isolation Complete ☐ Yes ☐ No
- Isolation Retained Under PIP No. ☐ Yes ☐ No

Name _____ Title _____ Time _____
Signed _____ (Area Supervisor) Date _____

Box 12 SUSPENSION

Box 12A WORK NOT COMPLETED

Permit Returned By Person Doing the Work
Work Not Completed
Worksite and Equipment Left in Safe and Clean Condition
Name _____ Title _____ Time _____
Signed _____ Date _____

Box 12B PERMIT SUSPENSION BY AREA SUPERVISOR

Work Completed
Worksite Clean and Safe

- Work is Continuing Under Permit No. ☐ Yes ☐ No
- Isolation Retained Under PIP No. ☐ Yes ☐ No

Name _____ Title _____ Time _____
Signed _____ (Area Supervisor) Date _____

Box 13 PERMIT CLOSE OUT

Permit Coordinator

Registration of Cancellation: Name _____ Date _____
All Necessary Documentation Collected and Retained in PCC Signed _____ Time _____

COLD WORK PERMIT AND CONFINED SPACE ENTRY

Original	PERMIT CONTROL CENTER	PERMIT NUMBER
Copy 2	WORKSITE	
Copy 3	AREA SUPERVISOR	(Issued by Rig)

Rig Name: _____

Box 6 PERMIT VALID

Time and Date Valid — From _____ Hours ____/____/____ To _____ Hours ____/____/____

Box 1 INSTRUCTIONS – ORIGINATOR COMPLETE THIS SECTION

Permit Originator's Name _____ Company _____ Trade _____
Rig Worksite _____ Location _____
Equipment to be Worked on _____

Box 2A ORIGINATOR COMPLETE THIS SECTION

Description of Work

_____

_____

Electrical Work Involved? Yes ☐ No ☐ Preparation/Isolation Permit Required? Yes ☐ No ☐ (If no to both, skip Section 2B)

Box 2B AREA SUPERVISOR – COMPLETE THIS SECTION

	Yes	Comments
Reason for Entry/Details of Isolation		
Preparation/Isolation Permit No.		
Isolated By - Blanking		
- Disconnecting		
Electrical Isolation		

If Yes: Complete Preparation/Isolation Permit and attach to PERMIT

Box 3/4 AREA SUPERVISOR – COMPLETE THIS SECTION

Box 3 PROTECTIVE EQUIPMENT REQUIRED

Y	N	
		Ear Protection
		Respirator Protection
		Inertia Reels
		Safety Harness
		Life Jacket/Work vest
		Breathing Apparatus
		Chemical Gloves
		Eye Protection
		Helmets/Boots/Coveralls
		Fire Extinguisher
		Fire Blanket
		Fire Hose
		Fire Watcher

Box 4 PRECAUTIONARY MEASURES REQUIRED

	Tick	PIP Number
☐ Electrical Isolation		
☐ Mechanical Isolation		
☐ Safety Meeting		
☐ Tool Box Meeting		

- ☐ Client to Inform
- ☐ Client Authorization
- ☐ Standby Boat to Notify
- ☐ Emergency Equipment Isolation
- ☐ Public Address Announcement
- ☐ Fire/Rescue Team to Alert
- ☐ First Aid Assistance
- ☐ Rescue Boat
- ☐ Water Curtain
- ☐ Job Safety Analysis
- ☐ Special Procedure to Set Up
- ☐ Installing Lock-Outs
- ☐ Signaling
- ☐ Cleaning the Area
- ☐ Restricting the Area
- ☐ Zoning Off the Area
- ☐ Installing Barriers
- ☐ Venting the System
- ☐ Gas Freeing
- ☐ Grounding, Bonding
- ☐ Radio Silence
- ☐ Procedures
- ☐ Other _____

Equipment and Tools

- ☐ Fire Detector
- ☐ Firefighting Equipment
- ☐ Gas Detector
- ☐ Blowers, Extractors
- ☐ Scaffolding
- ☐ Ladders
- ☐ Power Tools
- ☐ Electrical Tools
- ☐ Arc Welding Equipment
- ☐ Cutting/Welding Torch
- ☐ Grinder, Buffer
- ☐ Needle Gun
- ☐ Handheld Radio
- ☐ Crane
- ☐ Forklift
- ☐ Personnel Basket
- ☐ Ammeter
- ☐ Voltmeter
- ☐ Electrical Rescue Equipment
- ☐ Access/Egress
- ☐ Electrical Test Equipment
- ☐ Lighting
- ☐ Insulated Tools
- ☐ Pressure Gauge

Box 5A SPECIAL PRECAUTIONS/INSTRUCTIONS TO BE FOLLOWED

_____

_____

Box 5B GAS TESTS (QUALIFIED PERSON TO DO INITIAL GAS TEST)

Combustible			**Toxic**			**Oxygen Deficiency**	
Reading	% LEL	Time	Type of Gas		Reading	Reading	Time
Signature			Time	Signature		Signature	
Reading	% LEL	Time	Type of Gas		Reading	Reading	Time
Signature			Time	Signature		Signature	

Tester's Name _____ Tester's Signature _____ Date _____

Repeat Gas Tests Every _____ Hours _____ Or Continuous Monitoring

Note: Tests must be conducted immediately prior to entry.

Agent	Free Entry Permitted	Restricted Entry Permitted
Hydrocarbons	0 ppm MAX (0% of LEL)	1,400 ppm MAX (10% of LEL)
Oxygen	19.5 to 23.5%	16.5% to 19.5%

Note: Test must be conducted immediately prior to entry

Agent	Free Entry Permitted	Restricted Entry Permitted
Carbon Monoxide	50 ppm MAX	500 ppm MAX
Hydrogen Sulfide	10 ppm MAX	200 ppm MAX

Box 7 AUTHORIZATION: PERMIT COORDINATOR or RSTC

I have reviewed this permit. It complies with the requirements of the Energean Permit to Work System Manual and does not conflict with other permits/work activity.

Permit Coordinator _____ (Print Name)
Signature _____
Date _____

Box 8 ACCEPTANCE: PERSON IN CHARGE OF WORK

I understand the precautions to be taken and consider it safe to perform the work. I have informed the person performing the work of all precautions.

Person in Charge of Worksite (Print Name) _____ Person Performing Work (Print Name) _____
Signature _____ Signature _____
Date _____ Date _____

Box 9 APPROVAL: AREA SUPERVISOR

I have personally checked the precautions and protection stated on the permit and consider it safe to do this work.

Area Supervisor _____ (Print Name)
Signature _____
Date _____

Box 10 APPROVAL: PIC OR DESIGNATED AUTHORITY

I give authorization to commence the work as specified above and to continue it, provided the working conditions stated above remain the same.

PIC _____ (Print Name)
Signature _____ Other Signature(s) _____
Date _____ Date _____

Box 11 CANCELLATION

Box 11A WORK COMPLETED

Permit Returned By Person Doing the Work
Work Completed
Worksite and Equipment Left in Safe and Clean Condition

Name _____ Title _____ Time _____
Signed _____ Date _____

Box 11B PERMIT CANCELLATION BY AREA SUPERVISOR

Work Completed
Worksite Clean and Safe

- Reinstatement, De-isolation Complete ☐ Yes ☐ No
- Isolation Retained Under PIP No. ☐ Yes ☐ No

Name _____ Title _____ Time _____
Signed _____ (Area Supervisor) Date _____

Box 12 SUSPENSION

Box 12A WORK NOT COMPLETED

Permit Returned By Person Doing the Work
Work Not Completed
Worksite and Equipment Left in Safe and Clean Condition

Name _____ Title _____ Time _____
Signed _____ Date _____

Box 12B PERMIT SUSPENSION BY AREA SUPERVISOR

Work Completed
Worksite Clean and Safe

- Work is Continuing Under Permit No. ☐ Yes ☐ No
- Isolation Retained Under PIP No. ☐ Yes ☐ No

Name _____ Title _____ Time _____
Signed _____ (Area Supervisor) Date _____

Box 13 PERMIT CLOSE OUT

Registration of Cancellation:
All Necessary Documentation Collected and Retained in PCC

Permit Coordinator
Name _____ Date _____
Signed _____ Time _____

PREPARATION/ISOLATION PERMIT

Rig Name: _____

Original	PERMIT CONTROL CENTER Attached to permit	PIP NUMBER
Copy 2	WORKSITE Attached to permit	PERMIT NUMBER
Copy 3	AREA SUPERVISOR Attached to permit	(Issued by Rig)

Box 2 AREA SUPERVISOR TO COMPLETE

Date _____ Time _____

1. Isolation Requested By: Name _____ Title _____ Date _____ ☐ Yes ☐ No Sketch Attached
2. System to be Isolated: _____ ☐ Yes ☐ No Blanking Schedule Attached
3. Work to be Done: _____ ☐ Yes ☐ No Noted in Permit Log Book
4. Expected Duration: _____
5. _____ (Area Supervisor) hereby nominate the following competent person to perform this isolation:
   Name _____ Title _____ Date _____
6. Action Taken to Isolate as Follows: _____

Box 3 HYDRAULIC ISOLATION

I hereby certify that the system specified on this permit has been isolated from control equipment by the following means:

Equipment/Valve, etc.	Open	Closed	Spaded	Locked/Key	Disconnected	Caution Notice	Check for De-isolation

Approval to Proceed: NOMINATED COMPETENT PERSON _____ SIGNED _____ DATE _____

Box 4 ELECTRICAL ISOLATION

I hereby certify that the system specified on this permit has been electrically isolated by the following means:

Equipment/Valve, etc.	Isolated	Locked/Key	Fuse Removed	Disconnected	Earth Fitted	Caution Notice	Check for De-isolation

Approval to Proceed: NOMINATED COMPETENT PERSON _____ SIGNED _____ DATE _____

Box 5 MECHANICAL ISOLATION

I hereby certify that the system specified on this permit has been isolated mechanically by the following means:

Equipment/Valve, etc.	Open	Closed	Spaded	Locked/Key	Disconnected	Caution Notice	Check for De-isolation

Approval to Proceed: NOMINATED COMPETENT PERSON _____ SIGNED _____ DATE _____

Box 6 SAFETY/EMERGENCY SYSTEM ISOLATED

I hereby certify that the system specified on this certification has been isolated by following means:

Equipment/Valve, etc.	Open	Closed	Spaded	Locked/Key	Disconnected	Caution Notice	Check for De-isolation

Approval to Proceed: NOMINATED COMPETENT PERSON _____ SIGNED _____ DATE _____

Box 7 CLEARANCE

Box 8 I HEREBY DECLARE THE WORK SPECIFIED ON THIS CERTIFICATE IS COMPLETE/SUSPENDED.

NOMINATED COMPETENT PERSON SIGNED _____ DATE _____ TIME _____

I hereby declare the work specified on this certificate is complete/suspended and all associated work permits under my control have been withdrawn and I request that the plant be de-isolated.

AREA SUPERVISOR _____ SIGNED _____ DATE _____ TIME _____

Box 9 ALL DE-ISOLATIONS HAVE BEEN PERFORMED AND RETURNED TO NORMAL OPERATING STATE BY:

NOMINATED COMPETENT PERSON TO SIGN _____ DATE _____

Control	Electrical	Mechanical	Safety/Emergency Systems

Box 10 EXTENDED PERIOD ISOLATION (EPI)

Extension Period From _____ To _____

Tick Boxes Below as Appropriate to Indicate Systems Remaining Isolated

Mechanical ☐ Electrical ☐ Safety/Emergency ☐

Reasons For Isolation Extension _____

Permit Coordinator to Sign:

1. To confirm that EPI has been recorded in the PCC
2. That EPI is cancelled and PCC is associated with a new permit

1. Old Permit Off	Hot	Cold	Confined Space
2. New Permit On	Hot	Cold	Confined Space

Name _____

Signature _____

Date _____

ENERGEAN OIL & GAS	**LIMITATION OF ACCESS (LOA)**	Original	PERMIT CONTROL CENTER	LOA NUMBER
		Copy 2	WORKSITE	
		Copy 3	COMPETENT ELECTRICAL PERSON	(Issued By Rig)

Rig Name:	Work Site:

Instructions to proceed are given in Work Permit No:

1. Issue

Permission is given to …… Competent Electrical Person

To carry out the following Work / Testing * on the Electrical Equipment described below, which is in the vicinity of Live Exposed conductors.

Electrical Equipment:

Location:

Description of the Work / Testing * to be conducted:

NO OTHER WORK / TESTING SHALL BE CARRIED OUT

Live Electrical Equipment:

Caution Notices posted at:

Danger Notices posted at:

Precautions required when Work / Testing is carried out:

Accompaniment: Name of person(s) accompanying recipient of LOA:

Signature of Chief Engineer: …… …….. Time: …… Date: ……..

2. Receipt

I accept responsibility for carrying out the work / testing in accordance with this Limitation of Access (LOA) and no other work / testing will be done by me or the person(s) under my charge

Signature of Worksite Supervisor: …… Time: …… Date: ……..

3. Clearance

All persons under my charge have now been withdrawn and warned that it is no longer permitted to carry out the Work / Testing specified in this Limitation of Access (LOA)

Signature of Worksite Supervisor: …… Time: …… Date: ……..

4. Cancellation

This Limitation of Access (LOA) is now cancelled.

Signature of Chief Engineer: …… …… Time: …… Date: ……..

Safety Checklist

	Yes	No	N/A
Hot Work			
Is it a hazardous area?			
Is the PIC or designated responsible person informed?			
Has the work area been tested for hydrocarbon gas?			
Have you taken relevant fire precautions and positioned extinguishers in the area?			
Is there welding/burning involved?			
Are there other activities with potential for creating sparks or flame sources involved?			
Have you checked boundary spaces/opposite side of bulkheads for safety during hot work?			
Is a fire watch required or present?			
Is welding ground (earth) fed back to machine and attached to work piece?			
If work is overhead, is access roped off to stop debris or sparks from falling on personnel?			
Is the area immediately beneath worksite clear of personnel?			
Is electrical equipment involved?			
Has the isolation procedure been verified?			
Have other parties been informed?			
Electrical			
Is equipment in a hazardous area?			
Is a Hot Work Permit required?			
Has the method of isolation been identified?			
Has the breaker been pulled to isolate the equipment?			
Has the cross-assignment of SCR units been checked?			
Has the procedure for isolating DC motors been performed?			
If the work is on generators, has the diesel engine start been isolated and secured?			
Has the breaker been padlocked to prevent the premature engagement?			
Have the fuses been pulled as an additional safeguard?			
If the work is on pump units, are valves shut on pump inlet and discharge side if fitted?			
Is the standby unit serviceable and on-line?			
Are any other systems affected by the shutdown or isolation of this equipment?			
Has the isolation procedure been verified?			
Have the other parties been informed?			
Confined Space Entry			
Is the area a confined space?			
If yes, is manhole removed, access roped off, and warning sign attached?			
Has the space been ventilated?			
Have oxygen content and gas checks been made?			
Is adequate lighting available?			
Are access ladders in good condition?			
Does the space have any liquid present?			
Are any valves leaking fluid to the space secured; are signs posted?			
Is a person posted at top of the tank?			
Do you know how many workers will be in the space at one time?			
Have other parties been informed?			
Is there a self-contained breathing apparatus (SCBA) at the worksite?			
Has the rescue team been advised of the entry?			
Is rescue/escape equipment in place?			
Pressure Testing			
Is the area roped off and warning signs posted?			
Are protective clothing and goggles available if required?			
Are high-pressure lines leading to the equipment protected from damage?			
Are operators protected from debris in the event of equipment failure?			
Has an announcement been made on the public address system?			
Have nonessential personnel been removed from the area?			
Toxic or Dangerous Chemical Use			
Are toxic or dangerous chemicals involved?			
Are the relevant material safety data sheets available?			
Is protective clothing available, including gloves, goggles, and respirators?			
Is the eye-cleaning station close at hand and working?			
Is a safety shower close at hand and working?			
Are warning signs posted to warn of the work being done?			
Is the appropriate fire extinguisher available?			
Perforating/Explosives			
Are qualified service personnel available to conduct this operation?			
Has radio silence been requested?			
Has the Service Company Representative and PIC/Rig Superintendent/Operator's Representative discussed the procedure to follow for safe working?			

	Yes	No	N/A
Diving Operations			
Has the Diving Supervisor completed a work scope?			
Does the Diving Supervisor know of all other activity in progress or planned that could affect the diving operations?			
Does the Diving Supervisor know of sub-sea activity in progress or planned and obstructions?			
Has the standby vessel been informed?			
Are the appropriate flags, lights, signs, and other warning devices in place?			
Has all over water work that affects the diving operations been suspended?			
Have all crane lifts of tubulars that could affect the diving operation been suspended?			
Have all underwater discharges, inflows, and outflows near the diving operation been isolated?			
Has all scaffolding work been suspended?			
Are all personnel affected by the work aware that the work is starting?			
Has an announcement warning all personnel that diving is about to commence been made?			
Heavy or Unusual Lifts			
Is the weight of the lift known?			
Is rigging adequate for the lift?			
Are the slings and rigging in good condition and certified?			
Is the crane working within its safe radius for the load?			
Have all personnel who could be affected by the lift been informed?			
High-pressure Pipes and Pressure Vessels			
Are all valves closed and secured?			
Is a procedure in place for bleeding down pressure?			
Is there a catchment area to contain any hydrocarbons released?			
Are any blanks to be placed in the system?			
Are any sources of ignition present?			
Overhead Repair/Maintenance Work			
Is it in a hazardous area?			
Has the PIC or designated responsible person been informed?			
Will welding take place?			
Will burning take place?			
Is access roped off to stop debris or sparks falling on personnel?			
Is the area immediately beneath worksite clear of personnel?			
Have other parties been informed?			
Needle Gunning/Paint Spraying/Shot Blasting			
Is it in a hazardous area?			
Is eye protection available?			
Is a material safety data sheet on the paint available?			
Are air lines to equipment correctly terminated with safety pin and correct crow's foot?			
Are respirators available?			
Are walkways correctly roped off?			
If shot blasting, are areas roped off, and warning signs posted?			
Are vent fans shut down?			
Is the spraying of oil, grease, or paint to be performed in a machinery room and if so, has all equipment been shut down?			
Work Over Water			
Is a rescue plan in place and understood?			
Are personnel working from equipment certified for manlifts and if so, is there good communication between workers and equipment operator?			
Is work harness secured correctly?			
Is the number of workers who will be over water at one time known?			
Is there a watch with a handheld radio?			
If at night, is adequate lighting available?			
Have other parties been informed?			
Have nonessential personnel been removed from area?			
Mechanical			
Is equipment in a hazardous area?			
Has the PIC or designated responsible person been informed?			
Have areas been tested for hydrocarbon gas?			
Is a Hot Work Permit required?			
Is a Confined Space Entry Permit required?			
Is electrical isolation required?			
Have you identified a mechanical isolation method?			
Is an additional isolation method required?			
Is another system affected by isolation?			
Is the system depressurized/drained?			
Are the valves closed/opened, tagged?			
Have you roped off or otherwise isolated the area?			
Is scaffolding in place?			
Have other parties been informed?			

Appendix 8: INCIDENT REPORT FORM

ENERGEAN OIL & GAS	**INCIDENT REPORT FORM A** Must be completed within end of the shift of the incident and e-mailed onshore	**Incident No.**

1. Initial information — All Sections to be Completed

Installation / location **Date & time of incident** **Date & time reported**	**INCIDENT CLASSIFICATION** **Personnel** ☐ **Fatality** ☐ **Lost Time Injury** ☐ **No LTI** (FAC / MTR / RWC) * ☐ **Occupational Medical** **Dangerous Occurrences** ☐ **Near Miss** ☐ **Property Damage** ☐ **Loss of Containment / Env** * delete as appropriate	**Incident sub class.** ☐ **Third Party Incident** ☐ **Operational Incident** ☐ **Road Traffic Accident**
Module / area	**Incident Registered in Energean Database and Incident No. obtained?** **Yes** ☐ **No** ☐	FAC: First Aid Case MTC: Medical Treatment Room RWC: Restricted Work Case

Task in progress at time of incident (Please state if Concurrent Operation)

	Line Supervisor(s) in Charge:
Was a TRAC talk held? Yes ☐ **No** ☐ **If yes attach TRAC card**	**Is a Part B form being completed? Yes** ☐ **No** ☒

2. Weather and environmental conditions

Ground conditions:	**Illumination:**	**Sea state:**
Air conditions:	**Were they contributory factors:**	
Other environmental conditions to be considered:		

3. Witness Details

Witnesses names	**Addresses**	**Company**

4. Incident details

Short Description (used for reference)

Full Description - Provide full and clear details of the incident

If there is insufficient space in any section of this form, please continue on a separate sheet of paper.

Part A continued

An incident resulting in multiple casualties requires a separate form for each person.

5. Injured Person's Personal and Company Details

Surname:	Male /Female:	Occupation:
First name:	Date of birth:	

Home address Postcode

Days into shift	Hours into shift	Days offshore	Oilfield experience Years	Oilfield experience Months	Total time in job Years	Total time in job Months	Drilling experience Years	Drilling experience Months

Name & job title of Line Supervisor	Employer's name	Staff? ☐ Contractor? ☐ Agency? ☐ Other? _____

6. Medical details (To be completed by the Medic)

Injury party medivacced? Yes ☐ No ☐ Date/Time: First aid administered? Yes ☐ No ☐ Date/Time:	If medivacced, where to Kavala:

Description of injury and treatment administered:	Part of Body Injured

Signed Medic/First Aider ..... Print Name ..... Date .....

7. Immediate actions taken to make area / situation safe

8. Incident Type (Select only one of the following)

☐ Transportation	☐ Slips / Trips / Falls	☐ Fire / Explosion	☐ Pollution / Environmental
☐ Manual Handling	☐ Unsafe Act / Condition	☐ Mechanical Lifting	☐ Food Poisoning
☐ Machinery & Equipment	☐ Loss of H2S Containment	☐ Crane Operations	☐ Assault
☐ Falling / Flying Objects	☐ Hazardous Substances	☐ Electrical	☐ Other (specify below)
☐ Falling from Height	☐ Chemical Substances	☐ Structural / Scaffoldings	☐ ……

9. Review – Drilling Supervisor

I have reviewed this report for accuracy and completeness.

Signed Energean Drilling Supervisor .....

Print Name ..... Date .....

Incident Notified to OIM

I confirm that I have been informed of this incident.

Signed OIM. .....

Print Name ..... Date .....

10. Onshore Review (To be completed by Drilling Superintendent – barge / Rig Manager – rig)

IRP Required? Yes ☐ Planned Date/Time _____ No ☐	Reason: _____
Exclude from Statistics? Yes ☐ No ☐ Reason: _____	Final PMF (If IRP not Required): _____

Signed Drilling Superintendent / Rig Manager ..... Print Name ..... Date .....

If there is insufficient space in any section of this form, please continue on a separate sheet of paper.

ENERGEAN OIL & GAS	**INCIDENT REPORT PART B** This part must be completed within 72 hrs of the incident	**Incident No.**

To be completed by the OIM (barge) / DSV (rig) / Investigation Team Leader

11. Severity Rating	People	Asset	Environment	Reputation
5				
4				
3				
2				
1				
0				
This severity matrix is to be completed for all incidents indicating the severity rating for both the actual and potential consequences of the incident (use A for actual and P for potential) Severity Rating Determination is listed at the end of the Report				

12. Direct Causes (please tick (....√....) identified causes)

Acts

1. ☐ Beyond Authority To Operate Equipment
2. ☐ Instruction/Procedure Not Followed
3. ☐ Ignorance Of Warning Signs
4. ☐ Incorrect Operating Speed
5. ☐ Bypassing Safety Devices
6. ☐ Use of Defective Equipment
7. ☐ horseplay
8. ☐ Use of Improper Equipment - Tools
9. ☐ Use of Incorrect Personal Protective Equipment
10. ☐ Hasty Execution of Work
11. ☐ Not Concentrated / Lack of Attention
12. ☐ Improper Position For Task
13. ☐ Disorderly Behaviour
14. ☐ Under Influence Of Alcohol/Drugs/Medicine
15. ☐ Failure to Communication
16. ☐ Failure to wear Personal Protective Equipment
17. ☐ Failure to wear Respiratory Protective Equip.
18. ☐ Improper Manual Handling
19. ☐ Improper Machinery / Equipment Use
20. ☐ Improper Vehicle Operation
21. ☐ Failure to obey or use Warning / Safety Devices
22. ☐ Other (specify) ……

Conditions

1. ☐ Missing Guards/Barriers
2. ☐ Unsuitable Tools / Equipment / Materials
3. ☐ Defective Tools / Equipment / Materials
4. ☐ Improper Protective Aids
5. ☐ Incorrect Lighting
6. ☐ Incorrect Ventilation
7. ☐ Poor Housekeeping/Disorder
8. ☐ Hazardous Atmosphere (Dust / Vapour)
9. ☐ Removed Safety Devices
10. ☐ Bypassed (Safety) Devices
11. ☐ High / Low Temperature Exposure
12. ☐ High Noise Exposure Level
13. ☐ Wear & Tear
14. ☐ Tight Time Schedule
15. ☐ External (Weather, Third Party)
16. ☐ Inadequate Warning / Safety Devices
17. ☐ Inadequate Personal Protection Equipment
18. ☐ Inadequate Respiratory Protection Equipment
19. ☐ Other (specify) ……

Provide an explanation for each identified direct cause

If there is insufficient space in any section of this form, please continue on a separate sheet of paper.

Part B continued

13. Indirect Causes (please tick (....√....) identified causes)

Personal Factors

1. ☐ Lack Of Knowledge
2. ☐ Lack Of Skill
3. ☐ Inadequate Capability
4. ☐ Improper Motivation
5. ☐ Distracted
6. ☐ Stress
7. ☐ Inadequate Physical / Mental Capability
8. ☐ Disregard of Instructions
9. ☐ Inadequate Appreciation of Situation
10. ☐ Fatigue / Illness
11. ☐ Other (specify) ……

Job Factors

1. ☐ Inadequate leadership / supervision
2. ☐ Inadequate engineering / design
3. ☐ Inadequate purchasing
4. ☐ Inadequate maintenance or Inspection
5. ☐ Inadequate tools / equipment
6. ☐ Inadequate instructions / procedures
7. ☐ Inadequate training
8. ☐ Inadequate planning / organizing
9. ☐ Other (specify) ……..

Provide an explanation for each identified indirect cause

14. Root Causes - lack of management control (please tick (....√....) identified causes)

		p	s	c
1.	Leadership & Administration (Effective Leadership & administration of policies / procedures / people etc.)	☐	☐	☐
2.	Management Training (Making leaders out of people)	☐	☐	☐
3.	Planned Inspections	☐	☐	☐
4.	Risk Assessments, Hazard Identification & Procedures	☐	☐	☐
5.	Incident Investigation	☐	☐	☐
6.	Safety Observation Programmes / Active Monitoring	☐	☐	☐
7.	Emergency Preparedness	☐	☐	☐
8.	General Company Rules / Polices	☐	☐	☐
9.	Incident Analysis (Learning / Sharing from incidents)	☐	☐	☐
10.	Employee Training	☐	☐	☐
11.	Personal Protective Equipment	☐	☐	☐
12.	Health Control (Control of Occupational Health Hazards)	☐	☐	☐
13.	Audits and Reviews	☐	☐	☐
14.	Engineering Controls	☐	☐	☐
15.	One-On-One Personal Communications	☐	☐	☐
16.	Group Meeting	☐	☐	☐
17.	General Promotions (Campaigns, Awards / Recognition Schemes etc.)	☐	☐	☐
18.	Hiring and Placement (Selecting the right people for the job)	☐	☐	☐
19.	Purchasing Controls (Purchase of Equip. / Materials etc. and Control of Subcontractors / Vendors)	☐	☐	☐
20.	Environmental Controls	☐	☐	☐

p = **programme** (or part of) does not exist **s** = management control **system** inadequate **c** = **compliance** with standard is inadequate

Provide an explanation for each identified root cause

If there is insufficient space in any section of this form, please continue on a separate sheet of paper.

Part B continued

15. Which of the following are available? Supply copies (To be completed by OIM / DSV)

☐ **Photographs**	☐ **Drawings**	☐ **TRAC Cards**	☐ **Risk Assessments**
☐ **Procedures**	☐ **COSHH Assessments**	☐ **M/Handling Assessments**	☐ **Lifting Plans**
☐ **PUWER Assessments**	☐ **Inspection Reports**	☐ **Pre-shift Briefs**	
☐ **Others, please list :**			

16. Actions to be taken to prevent recurrence (To be completed by OIM / DSV)

Ref	*Person Responsible*	*Corrective Action*	*Target Date*

Signed OIM / DSV ..... **Print Name** ..... **Date** .....

17.Onsite Investigating Team Signatures and Acknowledgements (Investigating Team Members)

Signed ..... **Print Name** ..... **Position** ..... **Date** .....

Signed ..... **Print Name** ..... **Position** ..... **Date** .....

Signed ..... **Print Name** ..... **Position** ..... **Date** .....

Signed ..... **Print Name** ..... **Position** ..... **Date** .....

If there is insufficient space in any section of this form, please continue on a separate sheet of paper.

Part B continued

18. Severity Determination	People	Asset	Environment	Reputation
5	Multiple fatalities and or multiple permanent total disability including long term occupational illnesses such as poisoning or cancer.	Loss of multiple systems including catastrophic loss of hydrocarbon containment and control systems. Production losses lasting longer than 28 days. Estimated damage and repair costs of greater than €10,000,000.	Massive temporary and major permanent environmental damage. Constant high exceedance of prescribed emission limits. Company threatening financial penalty incurred (greater than €10,000,000). Major discharge of toxic materials. Major recovery program to be implemented by mobilization of international specialist organizations.	International public concern. Extensive adverse attention in the national and international media. International /national political concern with restrictive measures and/or impact on grant of licenses. International mobilization of action groups.
4	Single fatality or permanent total disability including long term occupational illnesses such as poisoning or cancer.	Loss of a complete system or systems including structural collapse and catastrophic failure of hydrocarbon containment. Production losses lasting between 7 and 28 days. Estimated repair costs greater than €1,000,000 and less than €10,000,000.	Major temporary with measurable permanent environmental damage. Extended exceedance of prescribed emission limits. Major financial penalty incurred (greater than €1,000,000 and less than €10,000,000). Significant discharge of toxic materials. Remedial action required national specialist third party organizations mobilized.	National public awareness and concern. Extensive adverse attention in the national media. Regional/national political concern with potentially restrictive measures and/or impact on grant of licenses. National mobilization of action groups.
3	Major injury or health affect, irreversible health damage without loss of life (including permanent partial disability) of personnel.	Loss of item of equipment or part of a system. Production losses lasting between 6 hours and 7 days. Estimated repair costs greater than € 100,000 and less than €1,000,000.	Localized temporary with non-measurable permanent environmental damage. Multiple cases of exceedance of prescribed emission limits. Significant financial penalty incurred (greater than € 100,000 and less than €1,000,000). Slight discharge of toxic materials. Remedial action required by offsite third party.	Regional public awareness and concern. Extensive adverse attention in local media and contact from pressure groups. Slight national media and/or local/regional political attention. Adverse stance of local government and/or action groups.
2	Potential lost time injury of personnel Lost time injuries include any work-related injury or illness (including fatalities) which result in at least one lost workday after the day of the incident Situations where an individual is capable of working, but unable to return to work solely due to circumstances such as an Employee unable to return to an offshore platform due to bad weather or lack of reasonably available transportation are excluded.	Irreparable damage of a component part of equipment. Production losses lasting between 1 and 6 hours. Estimated repair costs greater than € 25,000 and less than € 100,000.	Minor temporary and no permanent environmental damage. Several cases of exceeding prescribed limits. Minor financial penalty incurred (greater than € 25,000 and less than € 100,000). No discharge of toxic materials. Minor remedial action required by outsourcing third party involved.	Some local public awareness and concern. Some media and/or local political attention. Some local government interest. No National Government interest.
1	First aid or medical treatment required for personnel First aid and medical treatment cases include: - Treatment of an infection and application of antiseptics - Application of bandages, etc for any wounds - Removal of foreign bodies embedded in the eye - Removal of foreign bodies from a wound - Use of prescriptive or non-prescription drugs - Application of hot or cold compresses or application of heat therapy - X-ray diagnosis - The administration of tetanus shot(s) or booster(s).	Repairable damage to a component part of an item of equipment. Production losses lasting up to 1 hour. Estimated repair costs less than € 25,000.	Slight temporary and no permanent environmental damage. Single exceedance of prescribed emission limits. Potential to incur nominal financial penalty (less than € 25,000). No discharge of toxic materials. Minor remedial action required by outsourcing no third party involved.	Public awareness may exist, but there is no public concern. Limited local media and pressure group interest. No Local government interest. No National Government interest.
0	No damage to the health and safety of personnel.	No damage to any components. No loss of production. No repair costs.	No temporary or permanent environmental damage. No exceedance of prescribed emission limits. No financial penalty incurred. No discharge of toxic materials.	No public awareness or concern. No local media or pressure group interest. No Local Government interest. No National Government interest.

If there is insufficient space in any section of this form, please continue on a separate sheet of paper.

Appendix 9: INSPECTION PROGRAM

ENERGEAN
OIL & GAS

Appendix 9-1:
Electrical & Instrumentation Inspection Program

ID	ITEM	FREQUENCY OF INSPECTION					
		MONTHS				YEARS	
		1	2	3	6	1	2
	ONSHORE						
1	6.3 KV MOTORS & BREAKERS						X[1]
2	6.3 KV MOTORS & PUMPS BRGS	+				X	
3	6.3 KV SWGR & MCC RELAYS						X[1]
4	TRANSFORMERS						X[1]
5	NEUTRAL EARTHING RESISTOR						X[1]
6	6.3 PF CORRECTION EQUIPMENT						X[1]
7	GROUNDING TEST				X		
8	BLDG. GROUNDING TEST				X		
9	TURBO-GEN MAINT. RECORD						X[1]
10	BATTERIES DISCHARGE TESTS				X		
11	CATHODIC PROT. STATION				X		
12	"S" CATHODIC PROTECTION				X		
13	"S" END PIPELINE CATHODIC				X		
14	SAFETY LIGHTS MAINT.			X			
15	PRESS. BLDGS. DIFF. PRESS.				X		
16	IONIZATION DETECT. CALIBRATION			X			
17	HCL DETECTORS CALIBRATION			X			
18	COMB. GAS DETECTORS CALIBR.		X				
19	H2S DETECORS CALIBRATION		X				
20	ESDs CHECKS					X	
	OFFSHORE						
1	6.3 KV MOTORS & BREAKERS						X[1]
2	6.3 KV MOTORS & PUMPS BRGS	+				X	
3	6.3 KV SWGR & MCC RELAYS PROT.						X[1]
4	TRANSFORMERS						X[1]
5	NEUTRAL EARTH RESISTOR						X[1]
6	BATTERIES DISCHARGE TESTS				X		
7	V-102 T/F INSPECTION						X[1]
8	H2S DETECTORS CALIBRATION	X					
9	COMB. GAS DETECTORS CALIBR.		X				
10	IONIZATION DETECTORS CALIBR.			X			
11	UV DETECTORS CALIBRATION			X			
12	ESDs CHECKS					X	
13	SAFETY LIGHTS MAINT.			X			
14	MANUAL CALL POINTS					X	

NOMENCLATURE: (+) = Partial inspection to complete a cycle at (X)
(X) = All schedule items have been inspected

NOTES:

1. Inspection during general plant S/D.
2. All protocols are submitted to G.L. and distributed to all KAVALA OIL concerned parties.
3. Records are kept at the E&I office.

ENERGEAN
OIL & GAS

Appendix 9-2:
Safety Equipment Inspection Program
Breathing & Fire Fighting Equipment

ID	EQUIPMENT	TYPE OF INSPECTION / TESTING	INSPECTED BY	INSPECTION FREQUENCY	PROTOCOL / CERTIFICATION
A.	**BREATHING AIR EQUIPMENT**				
1.	AIR MASKS, CASCADE SYSTEMS, RESUSCITATORS	ROUTINE INSPECTION	KAVALA OIL	DAILY	
				2-MONTHS	PROTOCOL
2.	AIR CYLINDERS	TESTING	EVETAM AIR LIQUIDE	5-YEARS	CERTIFICATION
B.	**FIRE FIGHTING EQUIPMENT**				
1.	EXTINGUISHERS	INSPECTION	KAVALA OIL	3-MONTHS	PROTOCOL
		CHECKING	AUTHORIZED 3RD PARTY	ANNUALLY	CERTIFICATION
2.	FIXED FIRE EXTINQUISHING SYSTEMS	CHECKING	KAVALA OIL	3-MONTHS	PROTOCOL
3.	HORE REELS, DELUGE, FOAM, HOSES, MAIN VALVES, MONITORS, CLOTHING	TESTING	KAVALA OIL	3-MONTHS	PROTOCOL
4.	FIRE WATER PUMP PERFORMANCE	CHECKING	KAVALA OIL	WEEKLY	
		TESTING		6-MONTHS	PROTOCOL
5.	FIRE TRUCKS (WATER & POWDER)	TEST DRIVE	KAVALA OIL	8-HR SHIFT	
		CHECK LIST		WEEKLY	PROTOCOL
6.	FOAM AGENT	TESTING	AUTHORIZED 3RD PARTY	2-YEARS	CERTIFICATION
7.	ALL OFFSHORE FIREFIGHTING EQUIPMENT AND SYSTEMS	WIT INSPECTION	G.L.	2-YEARS	CERTIFICATION
8.	ALL ONSHORE FIREFIGHTING EQUIPMENT AND SYSTEMS	CHECKING	KAVALA F.F.DEPT.	5-YEARS	CERTIFICATION

NOTE:
Inspection & Testing of Breathing air Equipment are in compliance with the following:
1) Presidential Decree 546/85 (breathing air eqiupment).
2) Gree Legislation 10541/929/88 (air cylinder testing).

NOTES:
1. Inspection & Testing of Fire Fithging equipment are in compliance with the following:
   a. Ministerial Decision 618/43-13.01.2005 - GNG 52/20.01.2005 (Fire extinguishers)
   b. G.L. (all fire fighting equipment inspection & testing)
2. G.L. reviews all KAVALA OIL's inspection protocols.

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Appendix 9-2 (Cont'd):
Safety Equipment Inspection Program
Life Saving Equipment

ID	EQUIPMENT	TYPE OF INSPECTION / TESTING	INSPECTED BY	INSPECTION FREQUENCY	PROTOCOL / CERTIFICATION
C.	**LIFE SAVING EQUIPMENT**				
1.	LIFE BOATS	INSPECTION	KAVALA OIL	WEEKLY	
				MONTHLY	PROTOCOL
2.	LIFE BOAT WIRE SLINGS	REPLACEMENT	KAVALA OIL	5-YEARS	CERTIFICATE
3.	INFLATABLE LIFE RAFTS	INSPECTION	AUTHORIZED 3RD PARTY	ANNUALLY	CERTIFICATE
4.	LIFE BUOYS, LIFE JACKETS	INSPECTION	KAVALA OIL	2-MONTHS	PROTOCOL
5.	DISTRESS SIGNALS (SMOKE, HAND FLARES, MANOVERBOARD, ETC.)	INSPECTION	KAVALA OIL	2-MONTHS	PROTOCOL
		REPLACEMENT		3-YEARS	PROTOCOL
6.	ALL LIFE SAVING EQUIPMENT	WIT INSPECT	G.L.	2-YEARS	CERTIFICATE
7.	ALL LIFE SAVING EQUIPMENT	INSPECTION	PORT AUTH.	PERIODIC	LOGBOOK ENDORCEMENT

NOTES:

1. Inspection & Testing of Life Saving Equipment are in compliance with the following:
   a. Presidential Decree 546/85.
   b. SOLAS 83 (Safety of Life at Sea).
   c. Cermanischer Lloyd requirements.
2. Kavala Port Authorities periodicall inspect the platform life saving equipment and check the Kavala Oil Checking and Training Record Book.

Appendix 9-2 (Cont'd):
Safety Equipment Inspection Program
Lifting Equipment

A/A	EQUIPMENT	TYPE OF INSPECTION / TESTING	INSPECTED BY	INSPECTION FREQUENCY	PROTOCOL / CERTIFICATION
D. CRANES					
1	OFFSHORE PEDESTAL (4)	inspection	KAVALA OIL	3 months	PROTOCOL
		witness test	G.L.	2 years	CERTIFICATE
		load test	G.L.	5 years	CERTIFICATE
2	WOR FAVCO (1)	inspection	KAVALA OIL	annually	PROTOCOL
		witness test	3rd	2 years	CERTIFICATE
		load test	3rd	5 years	CERTIFICATE
3	SIGMA MOBILE (2)	inspection	KAVALA OIL	annually	PROTOCOL
		witness test	3rd	2 years	CERTIFICATE
		load test	3rd	5 years	CERTIFICATE
4	OFFSHORE BRIDGE (1) & MONORAIL (1)	inspection	KAVALA OIL	annually	PROTOCOL
		witness test	G.L.	2 years	CERTIFICATE
		load test	G.L.	5 years	CERTIFICATE
5	SIGMA DOCK (1)	inspection	KAVALA OIL	annually	PROTOCOL
		witness test	3rd	2 years	CERTIFICATE
		load test	3rd	5 years	CERTIFICATE
6	SIGMA BRIDGE (2) & MONORAIL (2)	inspection	KAVALA OIL	annually	PROTOCOL
		witness test	G.L.	2 years	CERTIFICATE
		load test	G.L.	5 years	CERTIFICATE

NOTES:

1. Inspection & Testing of Cranes are in compliance with the following:
   a. Presidential Decree 15085/593/2003.
   b. Manufacturer's Instructions.
   c. Germanischer Lloyd requirements.

Appendix 10: 2015 SAFETY RECORDS ASSESSMENT

2015 SAFETY RECORDS ASSESSMENT

Date: 12.01.2016

GROUP HSE

ENERGEAN OIL & GAS

KAVALA OIL S.A. EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

2015 SAFETY RECORDS ASSESSMENT

Accident / Incident Categories

A	Transportation
B	Manual Handling
C	Using Machinery
D	Falling / Flying Objects
E	Falling from Height
F	Slips / Trips / Falls
G	Unsafe Act / Condition
H	Loss of H_2S Containment
I	Hazardous Substances
J	Chemical Substances
K	Fire / Explosion
L	Mechanical Lifting
M	Crane Operations
N	Electrical
O	Structural / Scaffoldings
P	Pollution / Environmental
Q	Food Poisoning
R	Assault
S	Other

ENERGEAN OIL & GAS

KAVALA OIL S.A.
ENERGEAN FORCE

ACCIDENTS - INCIDENTS - ABSENCE DAYS 2000-2015

TABLE I - a

YEAR	NUMBER OF EMPLOYEES		NUMBER OF CONTRACTORS		TOTAL PERSONNEL		EMPLOYEES SUBTOTAL		CONTRACTORS SUBTOTAL		KAVALA OIL		ENERGEAN		PLANT CONTRACTORS		DRILLING CONTRACTORS		WORKING HOURS						
	KAVALA OIL	ENERGEAN FORCE	PLANT	DRILLING	ACCIDENTS	ABS. DAYS	ACCIDENTS	ABS. DAYS	ACCIDENTS	ABS. DAYS	ACCIDENTS	ABS. DAYS	ACCIDENTS	ABS. DAYS	ACCIDENTS	ABS. DAYS	ACCIDENTS	ABS. DAYS	KAVALA OIL	ENERGEAN FORCE	PLANT CONTRACTORS	DRILLING CONTRACTORS	TOTAL EMPLOYEES	TOTAL CONTRACT.	TOTAL
2000	254		100		6	96	2	23	4	73	2	23			4	73			434.131		240.000		434.131	240.000	674.131
2001	263		95		7	45	4	28	3	17	4	28			3	17			439.124		230.000		439.124	230.000	669.124
2002	261		150		2	13	0	0	2	13	0	0			2	13			449.164		279.370		449.164	279.370	728.534
2003	261		110		3	11	2	5	1	6	2	5			1	6			449.135		220.816		449.135	220.816	669.951
2004	264		170		4	17	2	10	2	7	2	10			2	7			444.300		300.000		444.300	300.000	744.300
2005	255		150		7	123	2	94	5	29	2	94			5	29			444.600		270.000		444.600	270.000	714.600
2006	261		100		2	16	2	16	0	0	2	16			0	0			417.700		210.000		417.700	210.000	627.700
2007	256		90		9	86	3	35	6	51	3	35			6	51			409.700		200.000		409.700	200.000	609.700
2008	250		80		7	138	3	41	4	97	3	41			4	97			412.600		190.000		412.600	190.000	602.600
2009	250		80		5	63	2	43	3	20	2	43			3	20			408.200		184.100		408.200	184.100	592.300
2010	262		85		5	135	5	135	0	0	5	135			0	0			375.840		169.580		375.840	169.580	545.420
2011	262		85		2	33	0	0	2	33	0	0			2	33			414.513		117.943		414.513	117.943	532.456
2012	262		85		3	130	2	112	1	18	2	112			1	18			414.042		77.281		414.042	77.281	491.323
2013	256		85		0	0	0	0	0	0	0	0			0	0			403.200		60.641		403.200	60.641	463.841
2014	256		85		2	16	0	0	2	16	0	0			2	16			403.200		72.641		403.200	72.641	475.841
2015	233	99	31	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	381.100	211.608	64.384	231.120	592.708	295.504	888.212
TOTAL	**257**	**99**	**99**	**56**	**64**	**922**	29	542	35	380	29	542	0	0	35	380	0	0	**6.700.549**	**211.608**	**2.886.756**	**231.120**	**6.912.157**	**3.117.876**	**9.141.821**

1 Fatal Accident

TABLE I - b

TOTAL PERSONNEL			GROUP EMPLOYEES			CONTRACTORS			OGP EUROPE			ABSENCE DAYS			KAVALA OIL			KAVALA OIL	ENERGEAN FORCE			ENERGEAN FORCE
FAR	LTIF	TRIR	FAR	LTIF	TRIR	FAR	LTIF	TRIR	FAR	LTIF	TRIR	PER TOTAL PERSONNEL	PER EMLPOYEE	PER CONTRACTOR	TOTAL	EMPLOYEES	CONTRACTORS	INCIDENTS / NEAR MISSES	TOTAL	EMPLOYEES	CONTRACTORS	INCIDENTS / NEAR
0	8,90	16,32	0	4,61	13,82	0	16,67	20,83	4,10	3,30	10,57	0,27	0,09	0,73	5	4	1	1				
0,15	10,46	20,92	0,23	9,11	15,94	0	13,04	30,43	5,30	2,60	7,76	0,13	0,11	0,18	7	3	4	7				
0	2,75	9,61	0	0,00	2,23	0	7,16	21,48	5,20	2,30	6,97	0,03	0,00	0,09	5	1	4	12				
0	4,48	8,96	0	4,45	8,91	0	4,53	9,06	3,60	2,40	6,78	0,03	0,02	0,05	3	2	1	8				
0	5,37	13,44	0	4,50	4,50	0	6,67	26,67	3,60	2,20	5,64	0,04	0,04	0,04	6	0	6	16				
0	9,80	20,99	0	4,50	13,50	0	18,52	33,33	3,70	2,00	4,81	0,30	0,37	0,19	8	4	4	21				
0	3,19	19,12	0	4,79	21,55	0	0,00	14,29	3,70	1,80	5,67	0,04	0,06	0,00	10	7	3	16				
0	14,76	24,60	0	7,32	12,20	0	30,00	50,00	4,72	1,40	4,10	0,25	0,14	0,57	6	2	4	3				
0	11,62	19,91	0	7,27	12,12	0	21,05	36,84	4,19	1,38	3,89	0,42	0,16	1,21	5	2	3	2				
0	8,44	28,70	0	4,90	29,40	0	16,30	27,16	6,58	1,31	3,48	0,19	0,17	0,25	12	10	2	11				
0	9,17	23,83	0	13,30	23,95	0	0,00	23,59	0,97	1,06	3,05	0,39	0,52	0,00	8	4	4	4				
0	3,76	11,27	0	0,00	7,24	0	16,96	25,44	0,87	1,08	2,81	0,10	0,00	0,39	4	3	1	3				
0	6,11	24,42	0	4,83	21,74	0	12,94	38,82	0,52	0,91	2,64	0,37	0,43	0,21	9	7	2	6				
0	0,00	12,94	0	0,00	9,92	0	0,00	32,98	2,26	1,02	2,58	0,00	0,00	0,00	6	4	2	4				
0	4,20	14,71	0	0,00	12,40	0	27,53	27,53	1,04	0,81	2,58	0,05	0,00	0,19	5	5	0	5				
0	0,00	6,76	0	0,00	8,44	0	0,00	3,38	*	*	*	0,00	0,00	0,00	1	1	0	3	5	4	1	23
															100	**59**	**41**	**122**	**5**	**4**	**1**	**23**

Notes:
Fatal Accident Rate (FAR): The number of company / contractor fatalities per 100.000.000 (100 million) hours worked
Lost Time Injury Frequency (LTIF): The number of lost time injuries (fatalities + lost work day cases) per 1.000.000 hours worked
Total Recordable Injury Rate (TRIR): The number of recordable injuries (fatalities + lost work day cases + restricted work day cases + medical treatment cases) per 1.000.000 hours worked.
In calculation of indexes LTIF, TRIR and " Absence Days per Employee " all absences are taken into account, not only more than three days.

* NOT PUBLISHED UNTIL THE TIME OF THIS ISSUE
THE TABLE WILL BE REVISED BY THE TIME THE ABOVE KPIs ARE PUBLISHED

ENERGEAN OIL & GAS

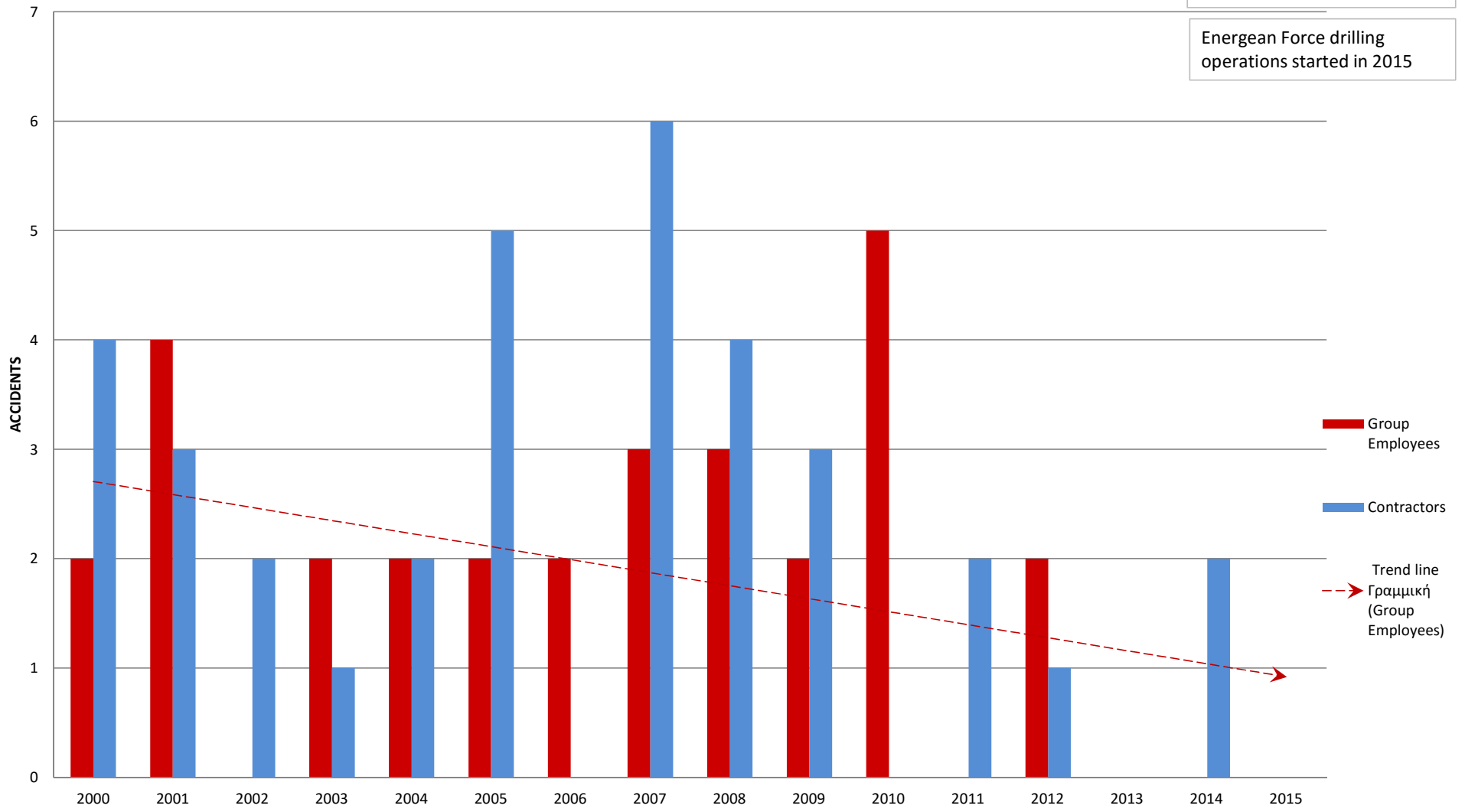
KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

Chart I - a
Accidents

The number of injuries resulting in absence from work even for one day

ENERGEAN FORCE

Energean Force drilling operations started in 2015



ENERGEAN OIL & GAS

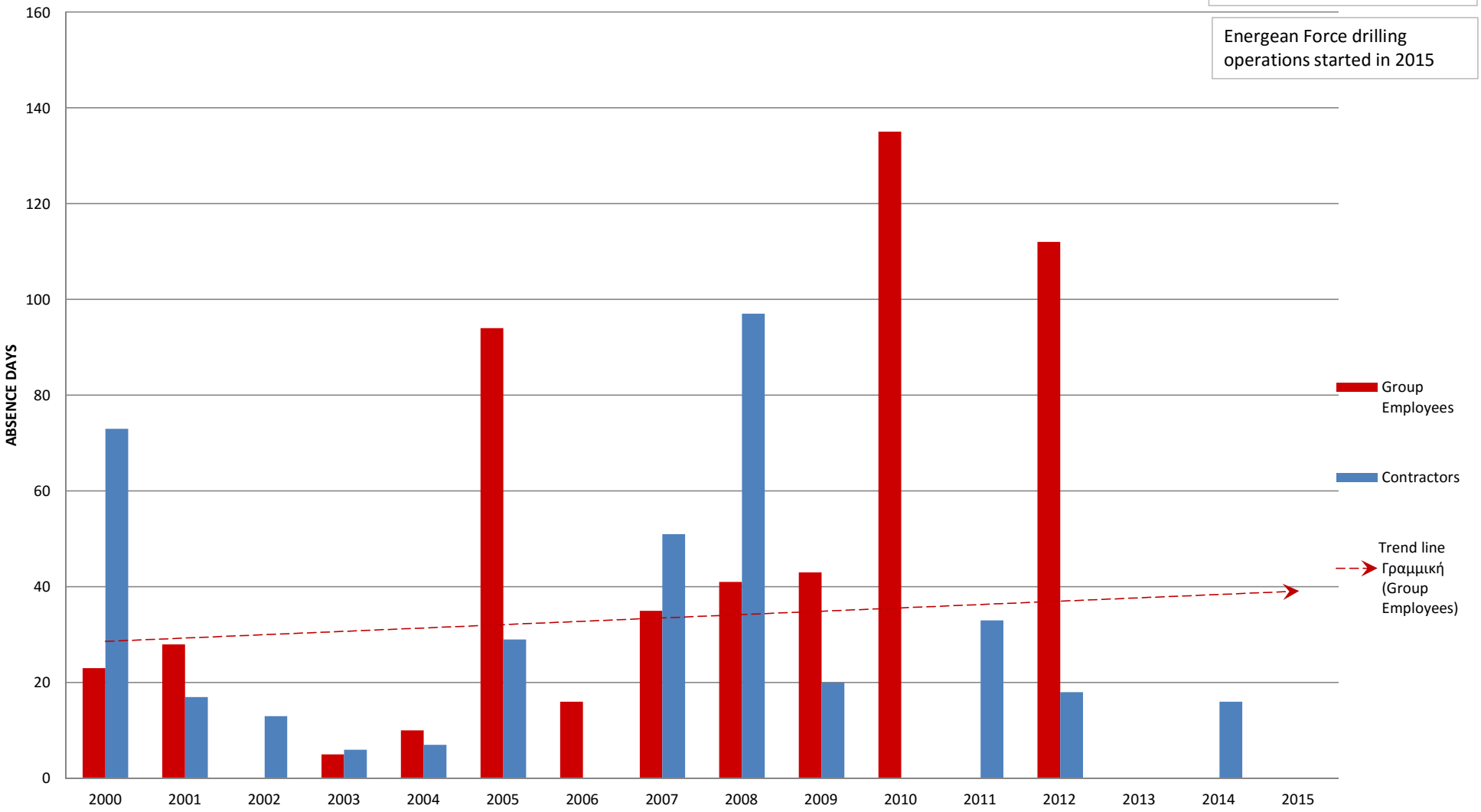
KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

Chart I - b
Absence Days

The days away from work due to accidents

ENERGEAN FORCE

Energean Force drilling operations started in 2015



ENERGEAN OIL & GAS

Chart I - c
Lost Time Injury Frequency

The number of lost time injuries (fatalities + lost work day cases)
per 1.000.000 hours worked

KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

Energean Force drilling operations started in 2015

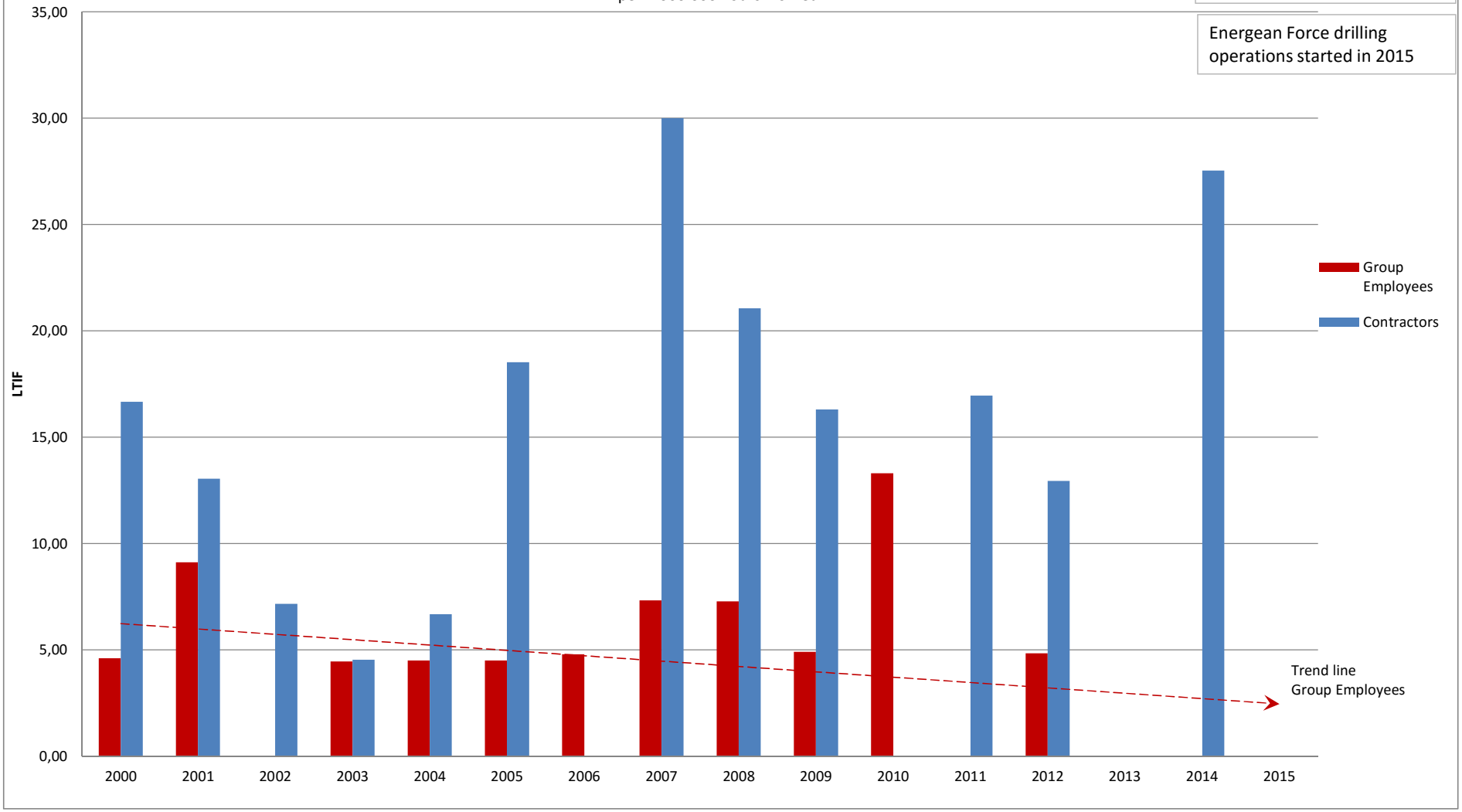
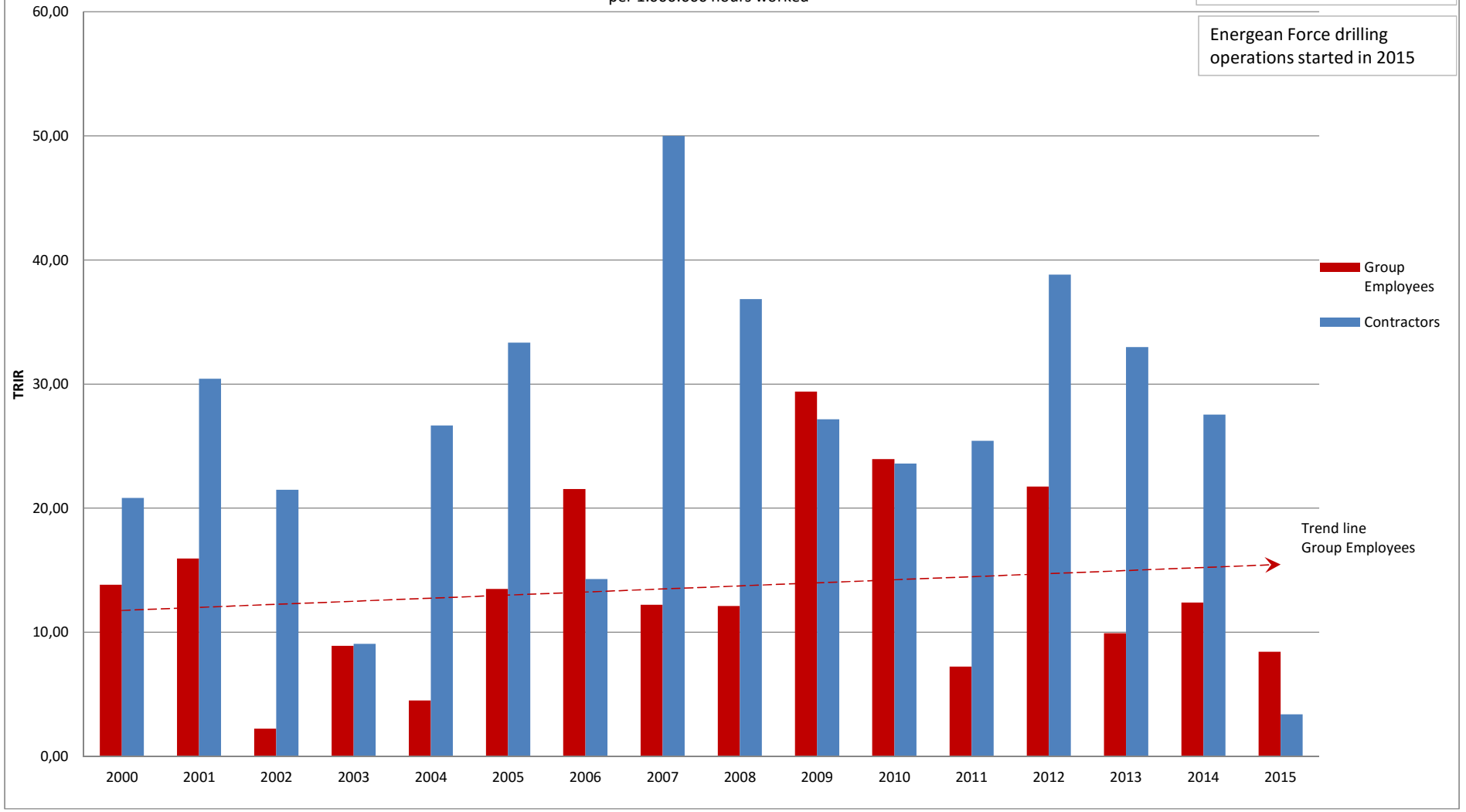


Chart I - d
Total Recordable Injury Rate

The number of recordable injuries (fatalities + lost work day cases + restricted work day cases + medical treatment cases) per 1.000.000 hours worked

ENERGEAN FORCE

Energean Force drilling operations started in 2015



ENERGEAN OIL & GAS

KAVALA OIL S.A. EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

ONSHORE & OFFSHORE ACCIDENTS 2000-2015

TABLE II

YEAR	ACCIDENTS			ABSENCE DAYS		
	ONSHORE	OFFSHORE	TOTAL	ONSHORE	OFFSHORE	TOTAL
2000	4	2	6	61	35	96
2001	3 *	4	7	18 *	27	45
2002	0	2	2	0	13	13
2003	3	0	3	11	0	11
2004	1	3	4	7	10	17
2005	1	6	7	30	93	123
2006	1	1	2	8	8	16
2007	1	8	9	15	71	86
2008	3	4	7	47	91	138
2009	2	3	5	43	20	63
2010	3	2	5	56	79	135
2011	0	2	2	0	33	33
2012	2	1	3	100	30	130
2013	0	0	0	0	0	0
2014	0	2	2	0	16	16
2015	0	0	0	0	0	0
ΣΥΝΟΛΟ	24	40	64	396	526	922
%	37,5	62,5	100,0	43,0	57,0	100,0

* = 1 FATAL ACCIDENT

* Energean Force drilling operations started in 2015

ENERGEAN OIL & GAS

KAVALA OIL S.A. EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

ACCIDENT RANKING 2000-2015

TABLE III

Category	ACCIDENTS																TOTAL	%	ABSENCE DAYS																TOTAL	%
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
A. Transportation																	0	0																	0	0
B. Manual Handling	1	2	1						1				1				6	9	1	16	3						50				30				100	11
C. Using Machinery & Equip.				1											2		3	5				2											16		18	2
D. Falling / Flying Objects	2	2		2		1											7	11	27	18		6		1											52	6
E. Falling from Height		1															1	2		1															1	0
F. Slips / Trips / Falls	3		1		2	5		1	1	1							14	22	68		10		12	107		13	30	2							242	26
G. Unsafe Act / Condition		1			2	1	2	8	5	3	5	2					29	45		10			5	15	16	73	58	33	135	33					378	41
H. Loss of H2S Containment		1															1	2																	0	0
I. Hazardous Substances																	0	0																	0	0
J. Chemical Substances													1				1	2													18				18	2
K. Fire / Explosion										1							1	2										28							28	3
L. Mechanical Lifting																	0	0																	0	0
M. Crane Operations													1				1	2													82				82	9
N. Electrical																	0	0																	0	0
O. Structural / Scaffoldings																	0	0																	0	0
P. Pollution / Environmental																	0	0																	0	0
Q. Food Poisoning																	0	0																	0	0
R. Assault																	0	0																	0	0
S. Other																	0	0																	0	0
TOTAL	**6**	**7**	**2**	**3**	**4**	**7**	**2**	**9**	**7**	**5**	**5**	**2**	**3**	**0**	**2**	**0**	**64**	**100**	**96**	**45**	**13**	**8**	**17**	**123**	**16**	**86**	**138**	**63**	**135**	**33**	**130**	**0**	**16**	**0**	**919**	**100**

* = 1 FATAL ACCIDENT

* Energean Force drilling operations started in 2015

ENERGEAN OIL & GAS

KAVALA OIL S.A. EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

ACCIDENTS PER DEPARTMENT 2000-2015

TABLE VI

DEPARTMENT	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL	%
CONTRACTORS	4	2	2	1	2	5		6	4	2		2			2		32	50
ELECTRICAL & INSTRUMENTATION SERVICES	1				1												2	3
MECHANICAL SERVICES		2		2		1	1		1				3				10	16
DRILLING / PRODUCTION		1					1	2	1	1	1						7	11
OFFSHORE OPERATIONS		1						1	1		1						4	6
ONSHORE OPERATIONS	1	1			1					2	3						8	13
OTHER DEPARTMENTS						1											1	2
TOTAL	**6**	**7**	**2**	**3**	**4**	**7**	**2**	**9**	**7**	**5**	**5**	**2**	**3**	**0**	**2**	**0**	**64**	**100**

* Energean Force drilling operations started in 2015

ENERGEAN OIL & GAS

KAVALA OIL S.A. EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

ACCIDENTS PER BODY PART 2000-2015

TABLE V

YEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL	%
GAS INHALATION POISONING		1															1	2
TORSO						1		1	1	1	1						5	8
FEET	3	2	1		3	2		4	1		2	1					19	30
HANDS	1	1		1	1	3	2	4	5	2	2	1	2				25	39
EYES	1	1	1														3	5
HEAD	1	2		2		1				2			1		2		11	17
TOTAL	**6**	**7**	**2**	**3**	**4**	**7**	**2**	**9**	**7**	**5**	**5**	**2**	**3**	**0**	**2**	**0**	**64**	**100**

NEAR MISSES 2000 - 2015

TABLE VI - a

YEAR	TOTAL	ONSHORE	OFFSHORE	TYPE																		
				A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2000	6	4	2	1	2					1	1	1										
2001	14	4	10	3			2		1	2	2	2		1		1						
2002	17	2	15	1			4		3		2	1		2	3							1
2003	11	2	9		1		5		1	2				1	1							
2004	22	7	15	2	5	1	6		2	2					3		1					
2005	29	5	24	4	3	1	8		2	5	2			1	2							1
2006	26	14	12	1	1	3	4		2	9		1		3	1	1						
2007	9	5	4			2				6				1								
2008	7	4	3		1					6												
2009	23	5	18	1	2	2	3		4	10											1	
2010	12	2	10			3				9												
2011	7	3	4			1				5				1								
2012	15	7	8		3	2	2		1	2	1		2			1		1				
2013	10	4	7		4		2		2					1		1						
2014	10	3	7		1				2	2	1	3		1								
2015	4	3	1		1		1	1														1
TOTAL	222	74	149	13	24	15	37	1	20	61	9	8	2	12	10	4	1	1	0	0	1	3
%	100	33	67	5,9	10,8	6,8	24,8	0,5	9,0	27,5	4,1	3,6	0,9	5,4	4,5	1,8	0,5	0,5	0,0	0,0	0,5	1,4

G+D= 52%

G Unsafe Act / Condition
D Falling / Flying Objects

NEAR MISSES 2015

TABLE VI - b

YEAR	TOTAL	RIG	BARGE	TYPE																	
				A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2015	28	7	21	3		5	5	1	3	2				1	3	1		3	1			
TOTAL	28	7	21	3	0	5	5	1	3	2	0	0	0	1	3	1	0	3	1	0	0	0
%	100	25	75	10,7	0,0	17,9	17,9	3,6	10,7	7,1	0,0	0,0	0,0	3,6	10,7	3,6	0,0	10,7	3,6	0,0	0,0	0,0

C+D= 36%

C Using Mashinery
D Falling / Flying Objects

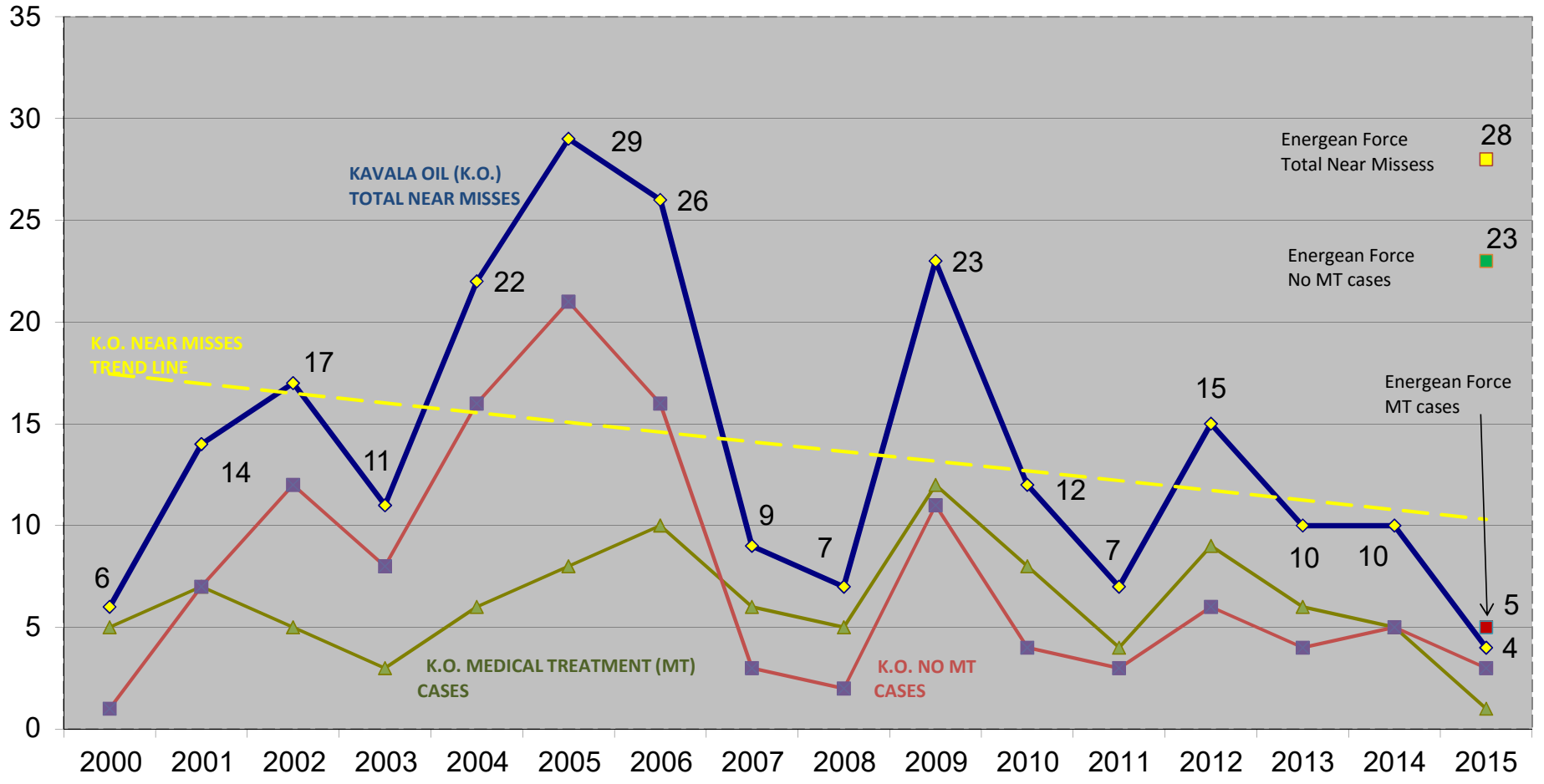
ENERGEAN OIL & GAS

Chart II
Near Misses
2000-2015

KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

Energean Force drilling operations started in 2015



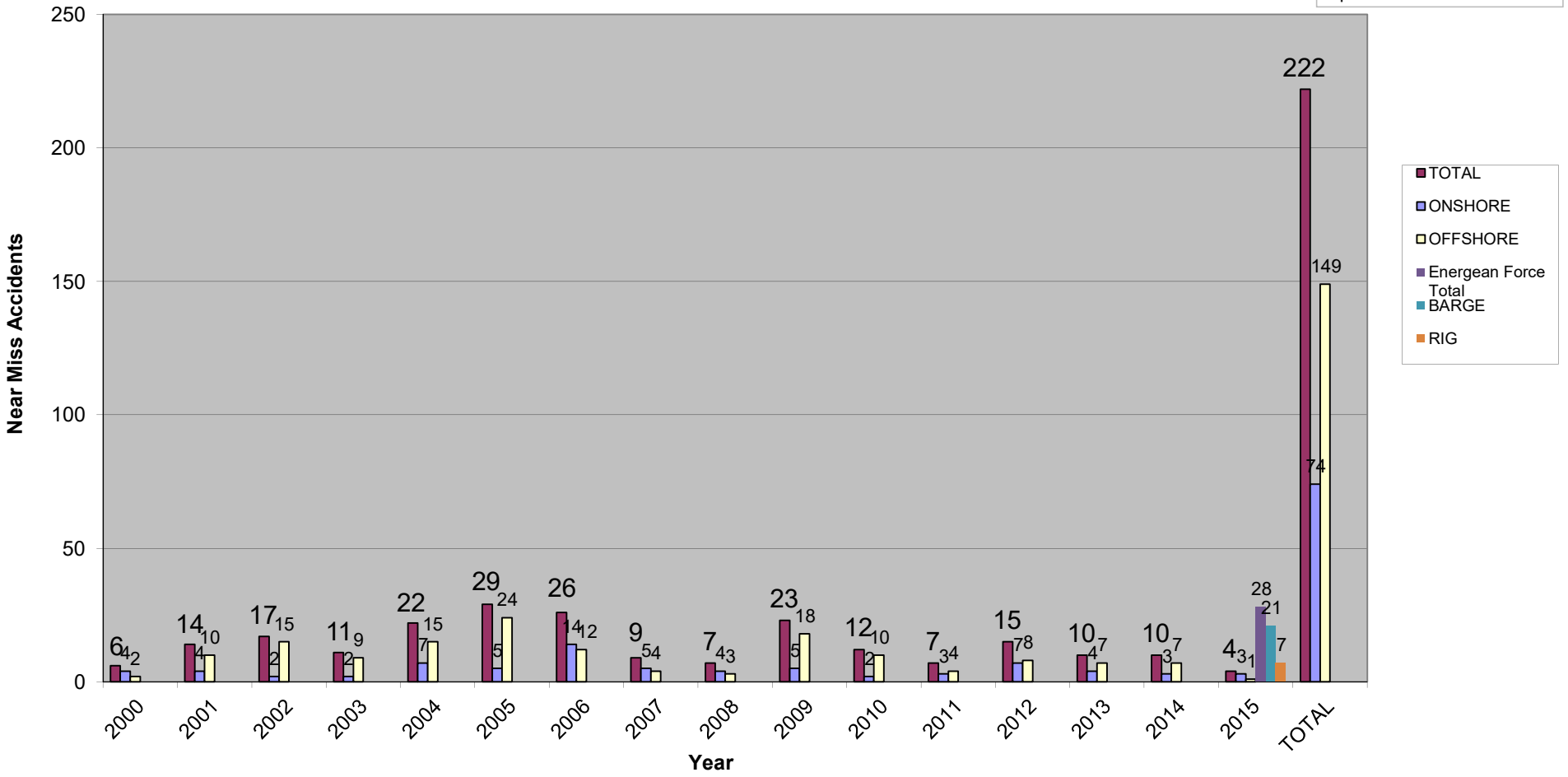
ENERGEAN OIL & GAS

KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

CHART V
Near Misses Onshore - Offshore
2000-2015

ENERGEAN FORCE

Energean Force drilling operations started in 2015



ENERGEAN OIL & GAS

KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

INCIDENTS PER MONTH 2000 - 2015

TABLE VIII - a

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OKT	NOV	DEC	TOTAL
2000	3	1	0	1	0	2	0	0	0	3	2	0	12
2001	2	0	3	0	0	2	3	3	1	5	1	1	21
2002	1	0	4	0	1	1	2	2	2	4	2	0	19
2003	0	1	0	0	1	1	2	3	2	3	1	0	14
2004	1	2	2	1	4	1	3	2	2	1	3	4	26
2005	6	2	7	5	1	2	0	4	3	2	0	4	36
2006	4	2	1	4	5	2	4	0	0	2	5	1	30
2007	2	2	0	1	2	2	2	1	2	2	2	0	18
2008	0	2	1	2	1	0	2	1	2	1	0	2	14
2009	0	2	4	2	4	5	2	4	2	3	1	0	29
2010	0	0	1	1	0	0	0	0	1	0	0	2	5
2011	0	0	1	0	2	0	0	0	2	2	2	0	9
2012	3	2	1	4	2	4	0	0	0	1	1	0	18
2013	3	0	0	0	0	0	3	0	3	1	1	0	11
2014	0	0	0	0	1	3	0	2	2	3	0	1	12
2015	0	0	1	0	0	0	0	0	0	1	1	1	4
TOTAL	25	16	26	21	24	25	23	22	24	34	22	16	278
%	9%	6%	9%	8%	9%	9%	8%	8%	9%	12%	8%	6%	100%

ENERGEAN
OIL & GAS

INCIDENTS PER MONTH 2015

TABLE VIII - b

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OKT	NOV	DEC	TOTAL
2015					6	1	4	5	3	4	2	3	28
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
TOTAL	0	0	0	0	6	1	4	5	3	4	2	3	28
%	0%	0%	0%	0%	21%	4%	14%	18%	11%	14%	7%	11%	100%

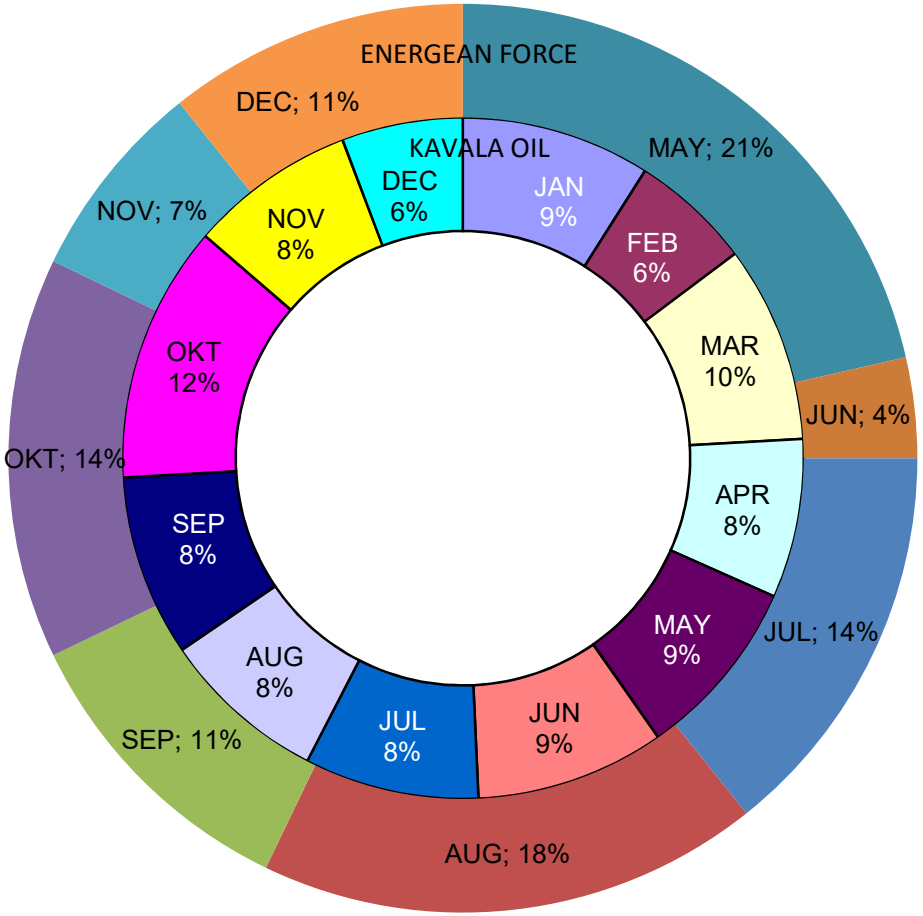
ENERGEAN OIL & GAS

Chart IV
INCIDENTS AVERAGE VALUES PER MONTH
2000 - 2015

KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

ENERGEAN FORCE

Energean Force drilling operations started in 2015



GROUP HSE

ENERGEAN OIL & GAS

KAVALA OIL S.A.

2015 INCIDENT INVESTIGATION RECORD / ΣΥΓΚΕΝΤΡΩΤΙΚΟΣ ΠΙΝΑΚΑΣ ΔΙΕΡΕΥΝΗΣΗΣ ΣΥΜΒΑΝΤΩΝ

A/A Συμβάντος / Incident id	1	2	3	4	Total	
Month / Μήνας	3	10	11	12	2015	
Related Person - Equipment / Εμπλεκόμενος	Spetsiotis	Albanopoulos	Komnimos	Thomadoudis		
Accident / Ατύχημα					0	
Near Miss / Παρ' ολίγον	1	1	1	1	4	
Direct Cause - Άμεση Αιτία						
Acts - Ενέργειες						
1. Beyond Authority To Operate Equipment Μη Εξουσιοδοτημένη Χρήση Εξοπλισμού					0	0%
2. Instruction/Procedure Not Followed Μη Τήρηση Οδηγίας / Διαδικασίας					0	0%
3. Ignorance Of Warning Signs Αγνόηση των Προειδοποιητικών Πινακίδων					0	0%
4. Incorrect Operating Speed Λάθος Ορίου Ταχύτητας					0	0%
5. Bypassing Safety Devices Παράκαμψη Εξοπλισμού Ασφαλείας					0	0%
7. Use of Defective Equipment Χρήση Ελαττωματικού Εξοπλισμού		1			1	25%
8. Use of Improper Equipment - Tools Χρήση Λάθος Εξοπλισμού - Εργαλείων					0	0%
9. Use of Incorrect Personal Protective Equipment Χρήση Λάθος Προσωπ. Προστατευτ. Μέσων					0	0%
10. Hasty Execution of Work Βιαστική Εκτέλεση Εργασίας					0	0%
11. Not Concentrated / Lack of Attention Απροσεξία / Έλλειψη Προσοχής	1			1	2	50%
12. Improper Position For Task Λανθασμένη Θέση Εργασίας					0	0%
13. Disorderly Behavior Ανάρμοστη Συμπεριφορά					0	0%
14. Under Influence Of Alcohol/Drugs/Medicine Υπό Επιρροή Οινοπνεύμ. / Ναρκωτ. / Φαρμάκων					0	0%
15. Failure to Communication Βλάβη στις επικοινωνίες					0	0%
16. Failure to wear Personal Protective Equipment Μη Χρήση Προσωπικών Προστατευτικών Μέσων					0	0%
17. Failure to wear Respiratory Protective Equip. Μη Χρήση Αναπνευστικής Συσκευής					0	0%
18. Improper Manual Handling Λανθασμένος Χειρισμός					0	0%
19. Improper Mashinery Operation Λανθασμένη Λειτουργία Μηχανήματος					0	0%
20. Improper Vehicle Operation Λανθασμένη Λειτουργία Οχήματος					0	0%
21. Failure to obey or use Warning / Safety Devices Μη Υπακοή/Χρήση Προειδοπ./Εξοπλ. Ασφαλείας					0	0%
22. Other (specify below) - Άλλο (διευκρινίστε κάτω)			1		1	25%
Conditions - Καταστάσεις						
1. Missing Guards/Barriers Έλλειψη Προφυλακτήρων / Απομονωτών					0	0%
2. Unsuitable Tools / Equipment / Materials Ακατάλληλα Εργαλεία / Εφόδια / Υλικά					0	0%
3. Defective Tools / Equipment / Materials Ελλατωματικά Εργαλεία / Εφόδια / Υλικά					0	0%
4. Improper Protective Aids Ακατάλληλα Μέσα Προστασίας					0	0%
5. Incorrect Lighting Ακατάλληλος Φωτισμός					0	0%
6. Incorrect Ventilation Ακατάλληλος Εξαερισμός					0	0%
7. Poor Housekeeping/Disorder Κακή Καθαριότητα / Ακαταστασία		1			1	25%
8. Hazardous Atmosphere (Dust / Vapour) Επικύνδινη Ατμόσφαιρα (Σκόνη / Ατμός)					0	0%
9. Removed Safety Devices Απομάκρυνση Εξοπλισμού Ασφαλείας					0	0%
10. Bypassed (Safety) Devices Ανεργός Εξοπλ. Ασφαλείας (υπό παράκαμψη)					0	0%
11. High / Low Temperature Exposure Έκθεση σε Υψηλή / Χαμηλή Θερμοκρασία					0	0%
12. High Noise Exposure Level Έκθεση σε Υψηλό Επίπεδο Θορύβου					0	0%
13. Wear & Tear Φθορμένος Εξοπλισμός			1		1	25%
14. Tight Time Schedule Βραχύς Προγραμματισμός					0	0%
15. External (Weather, Third Party) Εξωτερικοί Παραγ. (Καιρός, άλλο)					0	0%
16. Inadequate Warning / Safety Devices Ανεπαρκή Προειδοπ. / Εξοπλισμός Ασφαλείας					0	0%
17. Inadequate Personal Protection Equipment Ανεπαρκή Προσωπικά Προστατευτικά Μέσα					0	0%
18. Inadequate Respiratory Protection Equipment Ανεπαρκή Προστατευτικά Αναπνευστικά Μέσα					0	0%
19. Other (specify below) Άλλο (διευκρινίστε κάτω)					0	0%
19a. Inadequate sight Ανεπαρκείς οπτική επαφή	1			1	2	50%

ENERGEAN OIL & GAS

KAVALA OIL S.A. EXPLORATION AND EXPLOITATION OF HYDROCARBONS

2015 INCIDENT INVESTIGATION RECORD / ΣΥΓΚΕΝΤΡΩΤΙΚΟΣ ΠΙΝΑΚΑΣ ΔΙΕΡΕΥΝΗΣΗΣ ΣΥΜΒΑΝΤΩΝ

A/A Συμβάντος / Incident id	1	2	3	4	Total	
Month / Μήνας	3	10	11	12	2015	
Related Person - Equipment / Εμπλεκόμενος	Spetsiotis	Albanopoulos	Komnimos	Thomadoudis		
Accident / Ατύχημα					0	
Near Miss / Παρ' ολίγον	1	1	1	1	4	
Indirect Cause - Έμμεση Αιτία						
Personal Factors - Προσωπικοί Παράγοντες						
1. Lack Of Knowledge Έλλειψη Γνώσης					0	0%
2. Lack Of Skill Έλλειψη Επιδεξιότητας					0	0%
3. Inadequate Capability Ανεπαρκής Ικανότητα					0	0%
4. Improper Motivation Ακατάλληλα Κίνητρα					0	0%
5. Distracted Αποπροσανατολισμός - Απόσπαση Προσοχής					0	0%
6. Stress Στρές					0	0%
7. Inadequate Physical / Mental Capability Ανεπαρκής Φυσική / Διανοητική Ικανότητα					0	0%
8. Disregard of Instructions Παράβλεψη Οδηγιών					0	0%
9. Inadequate Appreciation of Situation Ανεπαρκής Σοβαρότητα της Κατάστασης	1			1	2	50%
10. Fatigue / Illness Κούραση / Αρώστια					0	0%
11. Other (specify below) Άλλο (διευκρινίστε κάτω)					0	0%
11a. Incautious earlier manipulation of PPE Απρόσεκτος πρώτερος χειρισμός ΜΑΠ		1			1	25%
Indirect Cause - Έμμεση Αιτία						
Job Factors - Εργασιακοί Παράγοντες						
1. Inadequate Supervision Ανεπαρκής Επιτήρηση				1	1	25%
2. Inadequate Engineering / Design Ανεπαρκής Μελέτη / Σχεδίαση					0	0%
3. Inadequate Purchasing Ανεπαρκής Προμήθεια Υλικών			1		1	25%
4. Inadequate Maintenance Or Inspections Ανεπαρκής Συντήρηση / Επιθεώρηση		1			1	25%
5. Inadequate Tools / Equipment Ανεπαρκή Εργαλεία / Εξοπλισμός					0	0%
6. Inadequate Instructions / Procedure Ανεπαρκείς Οδηγίες / Διαδικασία					0	0%
7. Inadequate Training Ανεπαρκής Εξάσκηση					0	0%
8. Inadequate Planing / Organizing Ανεπαρκής Σχεδιασμός / Οργάνωση	1				1	25%
9. Other (specify below) Άλλο (διευκρινίστε κάτω)					0	0%

ENERGEAN OIL & GAS

KAVALA OIL S.A. EXPLORATION AND EXPLOITATION OF HYDROCARBONS

2015 INCIDENT INVESTIGATION RECORD - SEVERITY RATING / ΣΟΒΑΡΟΤΗΤΑ					
A/A Συμβάντος / Incident id	1	2	3	4	Total Rating
Month / Μήνας	3	10	11	12	
Related Person - Equipment / Εμπλεκόμενος	HVAC Techn.	Maint. Techn.	Welder	Insp. Techn.	
Accident / Ατύχημα					1
Near Miss / Παρ' ολίγον	1	1	1	1	
Άνθρωποι / People					
0	1	1	1		
1				1	
2					1
3					
4					
5					
Εξοπλισμός / Asset					
0					
1					
2					0
3					
4					
5					
Περιβάλλον / Environment					
0					
1					
2					0
3					
4					
5					
Φήμη / Reputation					
0					
1					
2					0
3					
4					
5					

2015 INCIDENT INVESTIGATION RECORD / ΣΥΓΚΕΝΤΡΩΤΙΚΟΣ ΠΙΝΑΚΑΣ ΔΙΕΡΕΥΝΗΣΗΣ ΣΥΜΒΑΝΤΩΝ

A/A Συμβάντος / Incident id	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	
Month / Μήνας	5	5	5	5	5	5	6	7	7	7	7	8	8	8	8	8	9	9	9	10	10	10	10	11	11	12	12	12	2015	
Related Person - Equipment / Εμπλεκόμενος	B.Master	Winches	Steward	Crane Cam	Motorman	Anchor Wir.	B. Master	Winches	LP Manif.	Derr. Mast	Diver's boat	Winches	Floor tugger	Pipe handler	Ass. Driller	Ass. Driller	Derrickman	Compl. String	Valiant	Comp. PSV	Winches	Roustabout	Valiant	MV Neda	Hinge pin	Skyline Jew.	Hyd. Motor	Roustabout		
Accident / Ατύχημα																													0	
Near Miss / Παρ' ολίγον	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28	
Direct Cause - Άμεση Αιτία																														
Acts - Ενέργειες																														
1. Beyond Authority To Operate Equipment Μη Εξουσιοδοτημένη Χρήση Εξοπλισμού			1																										1	4%
2. Instruction/Procedure Not Followed Μη Τήρηση Οδηγίας / Διαδικασίας		1						1		1	1									1							1		6	21%
3. Ignorance Of Warning Signs Άγνόηση των Προειδοποιητικών Πινακίδων																													0	0%
4. Incorrect Operating Speed Λάθος Ορίου Ταχύτητας																													0	0%
5. Bypassing Safety Devices Παράκαμψη Εξοπλισμού Ασφαλείας																													0	0%
7. Use of Defective Equipment Χρήση Ελαττωματικού Εξοπλισμού									1										1						1				3	11%
8. Use of Improper Equipment - Tools Χρήση Λάθος Εξοπλισμού - Εργαλείων				1									1	1											1				4	14%
9. Use of Incorrect Personal Protective Equipment Χρήση Λάθος Προσωπ. Προστατευτ. Μέσων	1																												1	4%
10. Hasty Execution of Work Βιαστική Εκτέλεση Εργασίας	1		1																									1	3	11%
11. Not Concentrated / Lack of Attention Απροσεξία / Έλλειψη Προσοχής							1								1		1			1		1	1			1			7	25%
12. Improper Position For Task Λανθασμένη Θέση Εργασίας																													0	0%
13. Disorderly Behavior Ανάρμοστη Συμπεριφορά																													0	0%
14. Under Influence Of Alcohol/Drugs/Medicine Υπό Επιρροή Οινοπνεύμ. / Ναρκωτ. / Φαρμάκων																													0	0%
15. Failure to Communication Βλάβη στις επικοινωνίες																													0	0%
16. Failure to wear Personal Protective Equipment Μη Χρήση Προσωπικών Προστατευτικών Μέσων																													0	0%
17. Failure to wear Respiratory Protective Equip. Μη Χρήση Αναπνευστικής Συσκευής																													0	0%
18. Improper Manual Handling Λανθασμένος Χειρισμός																													0	0%
19. Improper Mashinery Operation Λανθασμένη Λειτουργία Μηχανήματος					1													1								1			3	11%
20. Improper Vehicle Operation Λανθασμένη Λειτουργία Οχήματος						1																		1					2	7%
21. Failure to obey or use Warning / Safety Devices Μη Υπακοή/Χρήση Προειδοπ./Εξοπλ. Ασφαλείας																													0	0%
22. Other (specify below) - Άλλο (διευκρινίστε κάτω)																													0	0%
Conditions - Καταστάσεις																														
1. Missing Guards/Barriers Έλλειψη Προφυλακτήρων / Απομονωτών					1					1																			2	7%
2. Unsuitable Tools / Equipment / Materials Ακατάλληλα Εργαλεία / Εφόδια / Υλικά							1						1	1															3	11%
3. Defective Tools / Equipment / Materials Ελαττωματικά Εργαλεία / Εφόδια / Υλικά	1			1				1	1									1							1				6	21%
4. Improper Protective Aids Ακατάλληλα Μέσα Προστασίας																													0	0%
5. Incorrect Lighting Ακατάλληλος Φωτισμός																											1		1	4%
6. Incorrect Ventilation Ακατάλληλος Εξαερισμός																													0	0%
7. Poor Housekeeping/Disorder Κακή Καθαριότητα / Ακαταστασία																										1	1		2	7%
8. Hazardous Atmosphere (Dust / Vapour) Επικίνδυνη Ατμόσφαιρα (Σκόνη / Ατμός)																													0	0%
9. Removed Safety Devices Απομάκρυνση Εξοπλισμού Ασφαλείας																													0	0%
10. Bypassed (Safety) Devices Ανεργός Εξοπλ. Ασφαλείας (υπό παράκαμψη)																													0	0%
11. High / Low Temperature Exposure Έκθεση σε Υψηλή / Χαμηλή Θερμοκρασία																													0	0%
12. High Noise Exposure Level Έκθεση σε Υψηλό Επίπεδο Θορύβου																													0	0%
13. Wear & Tear Φθαρμένος Εξοπλισμός																													0	0%
14. Tight Time Schedule Βραχύς Προγραμματισμός																													0	0%
15. External (Weather, Third Party) Εξωτερικοί Παραγ. (Καιρός, άλλο)		1				1		1				1				1					1								6	21%
16. Inadequate Warning / Safety Devices Ανεπαρκή Προειδοπ. / Εξοπλισμός Ασφαλείας											1																		1	4%
17. Inadequate Personal Protection Equipment Ανεπαρκή Προσωπικά Προστατευτικά Μέσα																													0	0%
18. Inadequate Respiratory Protection Equipment Ανεπαρκή Προστατευτικά Αναπνευστικά Μέσα																													0	0%
19. Other (specify below) Άλλο (διευκρινίστε κάτω)																													0	0%
19a.																													0	0%

2015 INCIDENT INVESTIGATION RECORD / ΣΥΓΚΕΝΤΡΩΤΙΚΟΣ ΠΙΝΑΚΑΣ ΔΙΕΡΕΥΝΗΣΗΣ ΣΥΜΒΑΝΤΩΝ

A/A Συμβάντος / Incident id	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	
Month / Μήνας	5	5	5	5	5	5	6	7	7	7	7	8	8	8	8	8	9	9	9	10	10	10	10	11	11	12	12	12	2015	
Related Person - Equipment / Εμπλεκόμενος	B.Master	Winches	Steward	Crane Cam	Motorman	Anchor Wir.	B. Master	Winches	LP Manif.	Derr. Mast	Diver's boat	Winches	Floor tugger	Pipe handler	Ass. Driller	Ass. Driller	Derrickman	Compl. String	Valiant	Comp. PSV	Winches	Roustabout	Valiant	MV Neda	Hinge pin	Skyline Jew.	Hyd. Motor	Roustabout		
Accident / Ατύχημα	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Near Miss / Παρ' ολίγον	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28	
Indirect Cause - Έμμεση Αιτία																														
Personal Factors - Προσωπικοί Παράγοντες																														
1. Lack Of Knowledge Έλλειψη Γνώσης	1	1	1						1																1		1	1	7	25%
2. Lack Of Skill Έλλειψη Επιδεξιότητας										1														1					2	7%
3. Inadequate Capability Ανεπαρκής Ικανότητα																													0	0%
4. Improper Motivation Ακατάλληλα Κίνητρα																													0	0%
5. Distracted Αποπροσανατολισμός - Απόσπαση Προσοχής															1					1		1							3	11%
6. Stress Στρές																													0	0%
7. Inadequate Physical / Mental Capability Ανεπαρκής Φυσική / Διανοητική Ικανότητα																													0	0%
8. Disregard of Instructions Παράβλεψη Οδηγιών							1	1			1												1						4	14%
9. Inadequate Appreciation of Situation Ανεπαρκής Σοβαρότητα της Κατάστασης			1	1	1	1							1	1			1	1	1								1	1	11	39%
10. Fatigue / Illness Κούραση / Αρώστια																													0	0%
11. Other (specify below) Άλλο (διευκρινίστε κάτω)																													0	0%
11a.																													0	0%
Indirect Cause - Έμμεση Αιτία																														
Job Factors - Εργασιακοί Παράγοντες																														
1. Inadequate Supervision Ανεπαρκής Επιτήρηση	1		1																						1		1		4	14%
2. Inadequate Engineering / Design Ανεπαρκής Μελέτη / Σχεδίαση									1			1																	2	7%
3. Inadequate Purchasing Ανεπαρκής Προμήθεια Υλικών																													0	0%
4. Inadequate Maintenance Or Inspections Ανεπαρκής Συντήρηση / Επιθεώρηση					1			1											1			1							4	14%
5. Inadequate Tools / Equipment Ανεπαρκή Εργαλεία / Εξοπλισμός														1											1				2	7%
6. Inadequate Instructions / Procedure Ανεπαρκείς Οδηγίες / Διαδικασία													1							1									2	7%
7. Inadequate Training Ανεπαρκής Εξάσκηση	1												1											1	1			1	5	18%
8. Inadequate Planing / Organizing Ανεπαρκής Σχεδιασμός / Οργάνωση				1			1																						2	7%
9. Other (specify below) Άλλο (διευκρινίστε κάτω)																													0	
9a. Inadequate communication Ανεπαρκής επικοινωνία		1									1																		2	7%

2015 INCIDENT INVESTIGATION RECORD - ACTUAL SEVERITY RATING / ΣΟΒΑΡΟΤΗΤΑ

A/A Συμβάντος / Incident id	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total Rating
Month / Μήνας	5	5	5	5	5	5	6	7	7	7	7	8	8	8	8	8	9	9	9	10	10	10	10	11	11	12	12	12	
Related Person - Equipment / Εμπλεκόμενος	B.Master	Winches	Steward	Crane Cam	Motorman	Anchor Wir.	B. Master	Winches	LP Manif.	Derr. Mast	Diver's boat	Winches	Floor tugger	Pipe handler	Ass. Driller	Ass. Driller	Derrickman	Compl. String	Valiant	Comp. PSV	Winches	Roustabout	Valiant	MV Neda	Hinge pin	Skyline Jew.	Hyd. Motor	Roustabout	
Accident / Ατύχημα	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Near Miss / Παρ' ολίγον	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Ανθρωποι / People																													
0							1		1		1				1	1	1												
1	1		1		1																	1						1	
2																													**1**
3																													
4																													
5																													
Εξοπλισμός / Asset																													
0						1		1					1	1				1		1	1		1	1	1		1		
1		1		1						1		1														1			
2																													**1**
3																													
4																													
5																													
Περιβάλλον / Environment																													
0																			1										
1																													
2																													**0**
3																													
4																													
5																													
Φήμη / Reputation																													
0																													
1																													
2																													**0**
3																													
4																													
5																													

Ορισμοί / Definitions

Ανθρωποι / People	0	No damage to the health and safety of personnel / Καμία ζημιά για την υγεία και την ασφάλεια του προσωπικού.
	1	First aid or medical treatment required for personnel First aid and medical treatment cases include: - Treatment of an infection and application of antiseptics - Application of bandages, etc for any wounds - Removal of foreign bodies embedded in the eye - Removal of foreign bodies from a wound - Use of prescriptive or non-prescription drugs - Application of hot or cold compresses or application of heat therapy - X-ray diagnosis - The administration of tetanus shot(s) or booster(s) Μικρή επίδραση στην υγεία, χωρίς καμμία χαμένη ημέρα εργασίας. Οι πρώτες βοήθειες ή η ιατρική θεραπεία που απαιτείται περιλαμβάνουν: - Θεραπεία λοίμωξης και εφαρμογή αντισηπτικών - Εφαρμογή των επιδέσμων, κλπ για τυχόν τραυματισμούς - Απομάκρυνση των ξένων σωμάτων από το μάτι - Απομάκρυνση των ξένων σωμάτων από μια πληγή - Χρήση φαρμάκων - Εφαρμογή ζεστών ή κρύων επιθεμάτων ή εφαρμογή θεραπείας θερμότητας - Ακτίνες Χ - Αντιτετανικό εμβόλιο
	2	Potential lost time injury of personnel Lost time injuries include any work-related injury or illness (including fatalities) which result in at least one lost workday after the day of the incident Situations where an individual is capable of working, but unable to return to work solely due to circumstances such as an Employee unable to return to an offshore platform due to bad weather or lack of reasonably available transportation are excluded Χαμένος χρόνος εργασίας προσωπικού απο τραυματισμό Περιλαμβάνει όλους τους τραυματισμούς που σχετίζονται με την εργασία και έχει ως αποτέλεσμα ο εργαζόμενος ακόμα και εάν είναι ικανός να εργαστεί, να μη μπορεί να επιστρέψει στην εργασία του, λόγω π.χ. μη ύπαρξης μεταφορικού μέσου
	3	Major injury or health affect, irreversible health damage without loss of life (including permanent partial disability) of personnel Σημαντικός τραυματισμός, μη αναστρέψιμη βλάβη της υγείας, χωρίς απώλεια της ζωής (συμπεριλαμβανομένης και της μόνιμης μερικής ανικανότητας) του προσωπικού
	4	Single fatality or permanent total disability including long term occupational illnesses such as poisoning or cancer Θάνατος ή μόνιμη ολική ανικανότητα
	5	Multiple fatalities and or multiple permanent total disability including long term occupational illnesses such as poisoning or cancer Πολλαπλοί θάνατοι ή / και μόνιμη ολική ανικανότητα, στην οποία περιλαμβάνονται ασθένειες λόγω συνθηκών εργασίας, όπως δηλητηρίαση ή καρκίνος
Εξοπλισμός / Asset	0	No damage to any components. No loss of production. No repair costs. Καμία ζημιά σε οποιαδήποτε εξάρτημα. Καμία απώλεια της παραγωγής. Δεν υπάρχουν έξοδα επισκευής.
	1	Repairable damage to a component part of an item of equipment. Production losses lasting up to 1 hour. Estimated repair costs less than € 25,000. Επισκευάσιμη ζημιά σε ένα εξάρτημα του εξοπλισμού. Απώλεια παραγωγής που διαρκεί έως και 1 ώρα. Εκτιμώμενο κόστος επισκευής μικρότερο από € 25,000.
	2	Irreparable damage of a component part of equipment. Production losses lasting between 1 and 6 hours. Estimated repair costs greater than € 25,000 and less than € 100,000. Ανεπανόρθωτη βλάβη ενός εξαρτήματος του εξοπλισμού. Απώλεια παραγωγής διάρκειας μεταξύ 1 και 6 ώρες. Εκτιμώμενο κόστος επισκευής από € 25,000 έως € 100,000.
	3	Loss of item of equipment or part of a system. Production losses lasting between 6 hours and 7 days. Estimated repair costs greater than € 100,000 and less than €1,000,000. Απώλεια εξοπλισμού ή μέρους ενός συστήματος. Απώλεια παραγωγής διάρκειας μεταξύ 6 ωρών και 7 ημερών. Εκτιμώμενο κόστος επισκευής από € 100,000 έως € 1,000,000.
	4	Loss of a complete system or systems including structural collapse and catastrophic failure of hydrocarbon containment. Production losses lasting between 7 and 28 days. Estimated repair costs greater than €1,000,000 and less than €10,000,000. Απώλεια ενός πλήρους συστήματος ή συστημάτων, καταστροφή δομικών κατασκευών και καταστροφή δοχείων υδρογονανθράκων. Απώλεια παραγωγής διάρκειας μεταξύ 7 και 28 ημέρες. Εκτιμώμενο κόστος επισκευής από € 1,000,000 έως € 10,000,000.
	5	Loss of multiple systems including catastrophic loss of hydrocarbon containment and control systems. Production losses lasting longer than 28 days. Estimated damage and repair costs of greater than €10,000,000. Απώλεια πολλαπλών συστημάτων, καταστροφές δοχείων υδρογονανθράκων και συστημάτων ελέγχου. Απώλεια παραγωγής που διαρκεί περισσότερο από 28 ημέρες. Εκτιμώμενο κόστος επισκευής μεγαλύτερο από € 10,000,000.
Περιβάλλον / Environment	0	No temporary or permanent environmental damage. No exceedance of prescribed emission limits. No financial penalty incurred. No discharge of toxic materials. No remedial action required by outsourcing. Καμία προσωρινή ή μόνιμη περιβαλλοντική ζημία. Καμία υπέρβαση των καθορισμένων ορίων εκπομπών. Καμία χρηματική ποινή δεν επιβλήθηκε. Καμία απόρριψη τοξικών υλικών. Δεν απαιτήθηκε διορθωτική δράση από την εξωτερικές πηγές.
	1	Slight temporary and no permanent environmental damage. Single exceedance of prescribed emission limits. Potential to incur nominal financial penalty (less than € 25,000). No discharge of toxic materials. Minor remedial action required by outsourcing no third party involved. Ασήμαντη προσωρινή και όχι μόνιμη περιβαλλοντική ζημία. Μοναδιαία υπέρβαση των καθορισμένων ορίων εκπομπών. Πιθανότητα επιβολής χρηματικής ποινής (μικρότερης από € 25.000). Καμία απόρριψη τοξικών υλικών. Μικρή διορθωτική δράση από εξωτερικές πηγές χωρίς εμπλοκή εξωτερικών επιθεωρητών.
	2	Minor temporary and no permanent environmental damage. Several cases of exceeding prescribed limits. Minor financial penalty incurred (greater than € 25,000 and less than € 100,000). No discharge of toxic materials. Minor remedial action required by outsourcing on-site third party involved. Μικρή προσωρινή και όχι μόνιμη περιβαλλοντική ζημία. Πολλές υπερβάσεις των καθορισμένων ορίων εκπομπής . Επιβλήθηκε μικρή χρηματική ποινή (άνω των € 25,000 και κάτω από 100,000 €). Καμία απόρριψη τοξικών υλικών. Μικρή διορθωτική δράση από εξωτερικές πηγές με εμπλοκή εξωτερικών επιθεωρητών.
	3	Localised temporary with non-measurable permanent environmental damage. Multiple cases of exceedance of prescribed emission limits.Significant financial penalty incurred (greater than € 100,000 and less than €1,000,000). Slight discharge of toxic materials Remedial action required by off site third party. Τοπική προσωρινή, μη μετρήσιμη περιβαλλοντική ζημία. Πολλαπλές υπέρβασης των καθορισμένων ορίων εκπομπής. Μεγάλη χρηματική ποινή (μεγαλύτερη των 100,000 € και μικρότερη από € 1,000,000). Μικρή διαρροή τοξικών υλικών. Διορθωτική δράση από εξωτερικές πηγές με εμπλοκή εξωτερικών επιθεωρητών.
	4	Major temporary with measurable permanent environmental damage. Extended exceedance of prescribed emission limits. Major financial penalty incurred (greater than €1,000,000 and less than €10,000,000). Significant discharge of toxic materials. Remedial action required national specialist third party organisations mobilised. Μεγάλη προσωρινή, μετρήσιμη περιβαλλοντική ζημία. Εκτεταμένη υπέρβαση των καθορισμένων ορίων εκπομπής. Μεγάλη χρηματική ποινή (άνω των € 1,000,000 και κάτω από € 10,000,000). Σημαντική απόρριψη τοξικών υλικών. Διορθωτική δράση από εξωτερικές πηγές με εμπλοκή Εθνικών εξωτερικών επιθεωρητών.
	5	Massive temporary and major permanent environmental damage. Constant high exceedance of prescribed emission limits. Company threatening financial penalty incurred (greater than €10,000,000). Major discharge of toxic materials. Major recovery programme to be implemented by mobilisation of international specialist organisations. Πολύ μεγάλη και σημαντική μόνιμη περιβαλλοντική ζημία. Σταθερά υψηλή υπέρβαση των καθορισμένων ορίων εκπομπής. Μεγάλη χρηματική ποινή, επικίνδυνη για τη βιωσιμότητα της εταιρίας (άνω των € 10,000,000). Σημαντική απόρριψη τοξικών υλικών. Εφαρμογή σημαντικού προγράμματος αποκατάστασης με κινητοποίηση
Φήμη / Reputation	0	No public awareness or concern. No local media interest. No Local Government interest. No National Government interest. Καμία ευαισθητοποίηση του κοινού ή ανησυχία. Κανένα ενδιαφέρον για τα τοπικά μέσα ενημέρωσης. Κανένα ενδιαφέρον από την Τοπική Αυτοδιοίκηση. Κανένα ενδιαφέρον από την Κυβέρνηση.
	1	Public awareness may exist, but there is no public concern. Limited local media interest. No Local government interest. No National Government interest. Ευαισθητοποίηση του κοινού αλλά χωρίς καμία ανησυχία. Περιορισμένο ενδιαφέρον από τα τοπικά μέσα ενημέρωσης. Κανένα ενδιαφέρον από την Τοπική Αυτοδιοίκηση . Κανένα ενδιαφέρον από την Κυβέρνηση.
	2	Some local public awareness and concern. Some media and/or local political attention. Some local government interest. No National Government interest. Μερική ευαισθητοποίηση και ανησυχία του τοπικού κοινού . Προσοχή ορισμένων μέσων μαζικής ενημέρωσης ή / και τοπική πολιτική προσοχή. Μικρό ενδιαφέρον από την τοπική αυτοδιοίκηση. Κανένα ενδιαφέρον από την Κυβέρνηση.
	3	Regional public awareness and concern. Extensive adverse attention in local media. Slight national media and/or local/regional political attention. Adverse stance of local government. Ευαισθητοποίηση και ανησυχία του κοινού της περιοχής. Εκτεταμένη δυσμενείς προσοχή από τα τοπικά μέσα ενημέρωσης. Μικρή προσοχή από τα εθνικά μέσα ενημέρωσης ή / και τους τοπικούς / περιφερειακούς πολιτικούς. Ανεπιθύμητη στάση της Τοπικής Αυτοδιοίκησης.
	4	National public awareness and concern. Extensive adverse attention in the national media. Regional/national political concern with potentially restrictive measures and/or impact on grant of licenses. National mobilisation of action groups. Ευαισθητοποίηση και ανησυχία του κοινού σε εθνικό επίπεδο. Εκτεταμένη δυσμενής προσοχή από τα εθνικά μέσα ενημέρωσης. Περιφερειακή / εθνική πολιτική ανησυχία με πιθανότητα επιβολής περιοριστικών μέτρων ή / και επιπτώσεις στην χορήγηση αδειών. Εθνική κινητοποίηση των ομάδων δράσης.
	5	International public concern. Extensive adverse attention in the national and international media. International /national political concern with restrictive measures and/or impact on grant of licenses. International mobilisation of action groups. Ανησυχία κοινού σε διεθνές επίπεδο. Εκτεταμένη δυσμενείς προσοχή στα εθνικά και διεθνή μέσα ενημέρωσης. Διεθνής / εθνική πολιτική ανησυχία με περιοριστικά μέτρα ή / και επιπτώσεις στην χορήγηση αδειών. Διεθνής κινητοποίηση των ομάδων δράσης.

Appendix 11: HSE 2015 ANNUAL REVIEW

ENERGEAN OIL & GAS

KAVALA OIL S.A.
EXPLORATION AND EXPLOITATION OF HYDROCARBONS

INTEROFFICE CORRESPONDENCE

To: Distribution Table

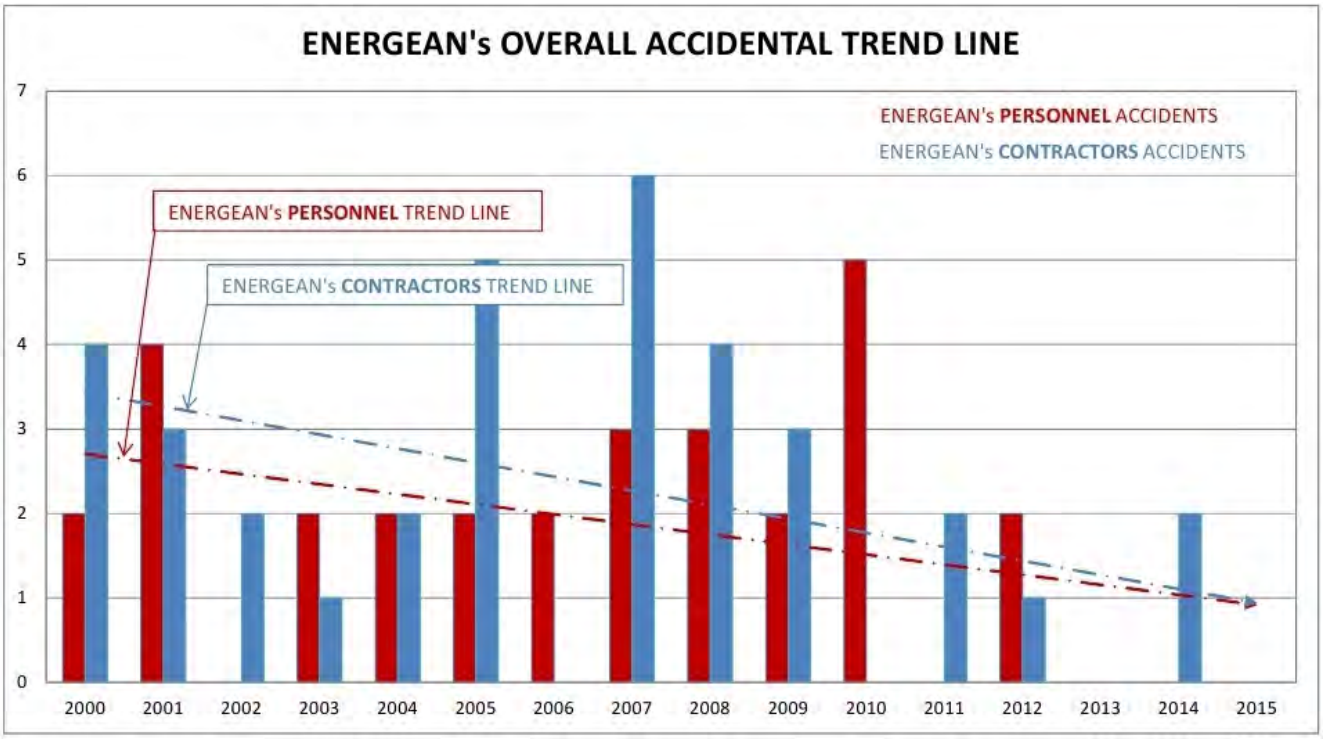
12.01.16 / HSE 16-133
A.25.00, B.02.02
HSE-VT/vt
Group HSE

Subject: **2015 Incidents Annual Review**

During 2015 no accident occurred at company's or contractor's personnel all over Energean's Group. Consequently no absence days occurred due to accidents.

For Energean's personnel it is the 3rd continuous year without any accident. This fact becomes more meaningful considering that within 2015 the new drilling rig, Energean Force, was refurbished, manned and started drilling operations.

The average number of accidents per year since year 2000, when the plant started operating again after an interruption of about one year is 4 but the prediction for 2016 is either 0 or 1 as expected from the trend shown below.



The previous year statistical prediction for 2015 was a number of accidents between 1 and 2 which has been achieved.

At Kavala Oil the near misses reported were 4 (1 in the first six months and 3 in the second, 3 onshore and 1 offshore at Delta platform); at 1 of them there was a need for basic first aid (the average per year of such first aid near misses is 6). All employees involved continued their work. The total (with and without first aid) average of near misses per year is 14,0 which could lead us to an assumption that some near misses might have not been reported or not given the necessary attention.

../2

By investigating the 4 reported incidents, we come to the following outcomes:

1. The major direct personal cause (direct individual act) was the "lack of attention" in 50% of causes, in 2014 it was the same cause in 47%,
2. The major indirect personal cause (emotional / psychological situation) was the "insufficient seriousness" of the working conditions in 50%, in 2014 it was the same cause in 56%.
3. The main immediate situation (equipment and environment) that contributed to the incidents was the "inadequate sight" of the working place in 50%, in 2014 it was the unsuitable equipment at 38%.
4. There is no main indirect situation (working parameters) but each one of the 4 incidents is categorized has a different cause, "inadequate planning" (25%), "inadequate inspection of the PPE used" (25%), "inadequate purchasing" (25%) and "inadequate supervision" (25%).

The overall severity rating of the incidents at Kavala Oil, classified in a scale from 0 to 5, is 1 (was 2 in 2014) exclusively coming from consequences to People due to one first aid case near miss. The severity rating at Assets is 0 (was 1 in 2014) and the severity rating at Environment and Reputation is 0 (same as in 2014), having no impact on these.

At Energean Force (commenced operation on May) the near misses reported were 28 (16 in the first four months and 12 in the last four, 21 on the barge and 7 on the rig); at 5 of them there was a need for basic first aid. All employees involved continued their work.

By investigating the 28 reported incidents, we come to the following outcomes:

5. The major direct personal cause (direct individual act) was the "lack of attention" in 25% of causes, and after that the "instruction / procedures not followed" in 21%,
6. The major indirect personal cause (emotional / psychological situation) was the "inadequate appreciation of the situation" in 39% and after that the "lack of knowledge" in also 25%,
7. The main immediate situation (equipment and environment) that contributed to the incidents was the "defective tools / equipment / materials" in 21% and the "external / weather etc." also in 21%,
8. The main indirect situation (working parameters) that contributed to the incidents was the "inadequate training" in 18% and after that the "inadequate supervision" in 14% and the "inadequate maintenance of inspection" also in 14%.

The overall severity rating of the incidents, classified in a scale from 0 to 5, is 1 coming from consequences to People due to five first aid cases and also from consequences to Assets where in 5 of 16 there was a small resulting cost. The severity rating at Environment and Reputation is 0, having no impact on these.

Near misses reporting should always be considered as an added value that may allow us to take the necessary precautions and implement corrective actions for having no accidents. All personnel are prompted to report near misses in good faith.

The main directions originating from all the above and which we should transfer to all employees are the following:

1. **OUR TARGET FOR 2016 IS ZERO ACCIDENTS** and all of our activities should be based on that.
2. Although no accidents occurred it should be highlighted that **hazards are always present** and all of us should identify them in time and take all necessary collective or individual protection measures.
3. **Stop work** should be applied if any situation arises due to an unsafe action, behaviour, omission or non-action of any party involved in the operation, and if such situation were permitted to continue, may potentially lead to the occurrence of an undesirable incident.
4. **P**ersonal **P**rotective **E**quipment may save our life. Treat them with care, check them on a daily bases and inform the competent person in case of malfunction.
5. **T**ogether **E**veryone **A**chieves **M**ore. Please do not wait for a safety meeting to make an H&S suggestion. Discuss anything you feel can make life safer benefiting us all at any time.

For any further information or clarification I remain at your disposal.

V. Tsetoglou
Group HSE Manager

Distribution Table

Kavala Oil
T. Eleftheriadis
G. Filippidis
N. Karanasos
P. Karatokis
S. Pavlakis
N. Sterniotis
V. Tomos
P. Velkos

Energean Force
P. Afendras
J. Norrie / M. McCormak
R. Byrd / P. Ecuer
A. McHoul

K.O. H&S Employees Committee
J. Gikas (Onshore)
Ch. Kirkousis (Onshore)
T. Manolas (Onshore)
N. Nasiadis (Offshore)
Ch. Thagopoulos (Offshore)
F. Tsaparlis (W.O.Rig)

Energean Force H&S Employees Committee
C. Tziatzias
T. Kolonis

cc: Messrs. M. Rigas, Group Chairman & CEO
D. Gontikas, Kavala Oil CEO
P. Benos, Group CFO
S. Moore, Group Technical Director
A. Grosse, Group Exploration Director
E. Pappas, Kavala Oil Special Advisor
C. Ioannidis, Kavala Oil Plant Manager
D. Donaldson, Drilling & Production Manager
A. Mastrantonis, Group HR & Administration Manager
E. Kelaidakis, Worker's Union President
S. Chiotakis, Media Representative

Appendix 12: DRILLING MANAGEMENT OF CHANGE PROCEDURE

DRILLING MANAGEMENT OF CHANGES PROCEDURE

Date			
Name	V. Tsetoglou	V. Sarantinos	S. Moore
Position	HSE Superintendent	Drilling Manager	Group Technical Director
	Issued	**Reviewed**	**Approved**

CONTENTS

1. SCOPE

The purpose of this procedure is to ensure that modifications to equipment, systems, and procedures do not compromise the safety and integrity of personnel and equipment, and that where required, a full operational, technical, safety, and quality review occurs before such modifications is implemented.
Considering specificity and criticality of the drilling activity, Energean recognizes the drilling department requires a specific procedure of Management of Changes.
This procedure will apply to Energean Drilling Units and related management whenever a change is considered regarding rig specification, rig equipment, certification, procedure, personnel or training.
The Drilling Department HSEQ Team is responsible for the administration, interpretation, and maintenance of this document.

2. DOCUMENTS OF REFERENCE

ISO 9001:2008	Quality Management Systems Requirements
ISO 14001:2004	Environment Management Systems Requirements accompanied by Directions for use
BS OHSAS 18001:2007	Occupational Health and Safety Management Systems. Specification
ISM Code	International Safety Management Code

3. RESPONSIBILITIES

Originator: will initiate the Management Of Change (MOC) process, but he shall always be the most competent and closely involved to requested change. He will actively participate or lead the implementation. For example: the chief electrician will be the originator for any rig specific change to the electrical integrity of the rig.

OIM: will verify and coordinate with Drilling Management the MOC request. He may decide to cancel a MOC request, based on an objective justification. The OIM will be also the key person in case of emergency MOC, as described above.

Review / Approval party: The competent department corporate manager, as defined by the MOC request, will approve the project. A third party approval may be requested prior to authorize the change.

Authority: The authorization to implement the MOC request will be given by the highest responsible person, as per process flow chart. It can range from Rig Manager to Drilling Group Director.

4. PROCEDURE

4.1. Principle

The management of changes for drilling activities can be sequenced in 6 steps, as follow:

1. Initiation

The required change is identified and defined using the form and procedure. The request must consider all possible options and justify the proposed solution based in a detailed

assessment. The scope of work, planning, cost and necessary engineering / approval must be detailed. The potential impacts must be assessed and rated.

2. Control/Verification

The MOC coordinator will verify that the change can proceed. The OIM will be responsible of the coordination with all required persons for the approval.

3. Review Approval

The change proposal will be reviewed by necessary corporate department(s) /third party. The review approval will be granted only when the MOC project is fully documented to the satisfaction of the reviewers.

4. Authorization

The authorization will be given from the management by returning the MOC with the approved project documentation to the concerned parties.

5. Implementation

Implementation will be monitored and reported by the MOC coordinator, until its completion. The MOC will be closed and properly recorded once completed.

6. Monitoring

Periodically, the fully implemented change must be checked to ensure sustainability of the change.

The key activities for each step are detailed in 4.3.

4.2. MOC Numbering

All drilling MOC will be identified and codified in accordance with the following schedule:

MOC – _ _ _ _ _ _ _ – _ _ _ _ – _ _ _

Where:
“Company Name” to be replaced by the name of Energean (e.g.: Energean),
“Year” must be entered in the four digit format (e.g.: 2014)
“Number” will be given by the OIM, with three digits (e.g.: 001).

4.3. MOC Process

The drilling MOC process is detailed in Flowchart (Appendix 1).

Each change is recorded in a *Drilling Management of change request*. The evidence of all MOC requests is maintained through *Drilling Management of change register.*

The description of drilling MOC process is detailed in the table below:

STEPS	ACTIONS
Initiation	Identify need for modification. Complete MOC Request. The originator will ensure that the MA is fully documented with all relevant information, drawings, sketches to enable the project to be fully addressed, work scopes established, technical legislative issues resolved, and accurate costing generated. Assess the Risk related to the project using an acceptable method. The result will be reported in MOC Request.
Verification	OIM will verify the validity and relevance of the MOC. The MOC will be registered. If agreed by OIM, the request will be forward to the Rig Manager. If the MOC is not accepted, follow the process map and decide if it can be reviewed and improved or if the process has to be stopped.
Review / Approval	The Rig Manager in coordination with the QHSE representative will decide if the MOC is valid and/or if support is required. If support is needed; it will be indicated who needs to be involved. If rejected, mention "REJECTED for "XXX" reason" and MOC request and discuss definitive closeout or alternative with OIM.
Authorization	Management will review, request information and revise the MOC Request prior to give its authorization. Rig Manager, Drilling Manager or Drilling Director, depending to the level of authorization required, will be monitoring the MOC actions.
implementation	The MOC is sent to the Rig for implementation. The OIM will be in charge of monitoring the implementation and will report completion to the Rig Manager. Prerequisites must be acknowledged according to the work scope defined prior to start the implementation.
Completion	Once implemented, the change made will be assessed to ensure the result is positive. Completion should be reported and the MOC closed out.

4.4. Risk assessment

Hazard identification and risk assessment methodologies vary greatly across the drilling industry, ranging from simple assessments to complex quantitative analyses with extensive documentation. Individual hazards can require that different methods be used, e.g. an assessment of long-term exposure to asbestos can need a different method than that taken for equipment safety or for assessing an office workstation.

The management of change needs to be considered for changes in assessed risks, determination of controls, or the implementation of controls. Management review should be used to determine whether changes to the methodology are needed overall.

To be effective, the hazard identification and risk assessment should take account of the following:

- A method covering: Hazard(s), Risk(s), Control(s)
- The existing system and the interrelation to other changes and development
- The different possible impacts: how the likelihood is affected, how the consequences change, how existing barriers are affected.
- Implementing the hierarchy of controls (Elimination, Substitution, Engineering controls, Signage, warnings, and/or administrative controls, Individual control)
- Historic of the change, existing similar case within the company & industry.

4.5. Emergency management of change

On occasion, repairs, connections, bypasses, or other modifications may be made out of operating necessity. Any of these changes can introduce new hazards or compromise the safeguards built into the original design. Care must be taken to understand the process, facility, and personnel safety and environmental implications of any changes. Although some changes may be minor with little likelihood of compromising safety or environmental protection, all changes may have the potential for disruption, injury, or business loss.

An Emergency MOC is a change justified by any of the following situations:

1. The change is needed to correct a deficiency that would cause a hazardous condition that is an immediate threat to the safety, health or security of the personnel.
2. The change is needed to prevent an immediate environmental release.
3. The change is needed to prevent an immediate interruption of the company business continuity.

This specific management of change requiring efficiency of execution may override the regular process but shall never be carried out without approval from the OIM and/or, depending to consequences, company management. In any case, it is the OIM responsibility to take action immediately or wait for Energean management approval.

All Emergency Management of Change must be recorded as soon as possible to keep the best accuracy of the event.

5. APPENDICES

Appendix 1 – Drilling MOC flowchart

Appendix 1 – Drilling MOC flowchart