Annual HSE Performance Report 2013
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GeoSea stands for excellent, safe and high-quality design, procurement, construction, maintenance and installation of offshore structures. Our trademark is our determination to be successful in activities requiring the use of the most innovative techniques in usually challenging environmental conditions. GeoSea resolutely chooses for the delivery of sustainable projects for people and environment.

We consider “Quality-Safety-Health-Environment“ our key values. The underlying principle of the “Zero accidents and zero environmental incidents” slogan underlines our objectives.

In the spirit of continuous innovation we want, together with our clients, authorities, subcontractors and our dedicated staff and crew, to share our HSE achievements and plans for the future. We are convinced that this HSE report will give you a clear and open insight into our constantly evolving and improving performances.

Luc Vandenbulcke
Managing Director GeoSea
Introduction

This annual report gives a clear and sound overview in which way GeoSea watches over the Health & Safety of every person and who is involved in our activities and cares for the environment;

- The GeoSea organisation possesses a comprehensive range of certificates. These are the ‘signs on the wall’ of the efforts we make to improve our HSE level in a continuous way.

- GeoSea has developed an integrated management system that is constantly evolving according to the needs of our external clients and internal organisation.

- The environmental care and performance are inextricably linked with our Operations.

- HSE is periodically monitored by KPI’s. The fundamentals of a good system are built on HSE meetings, Toolbox participations, Safety Observations, Inspections and Drills.

- GeoSea puts a lot of effort in incident management. We are convinced of the positive effects of our constant focus on high potential incidents.

- A large number of qualified HSE personnel and fully trained employees have become self-evident in our organisation.

- Every year GeoSea is an active participant in the organisation of the DEME safety moment day.

- GeoSea awards projects and employees for their dedication and safety performance.

- A good document management system is crucial to share knowledge and to have up-to-date information at all times.

- Subcontractor management is and will always be essential to control our risks.

Our certificates

GeoSea and OWA management system standards

- VCA** & OHSAS 18001 for the execution of occupational health and safety
- ISM for the execution of safety at sea and marine-environmental protection
- ISO 14001 for the execution of environmental protection
- ISPS for the execution of security on vessels
- ISO 9001 for the execution of quality assurance

DEME Group Certificates

- CO2-Awareness Certificate (CO2 Prestatieladder Certificatie v2.1 Niveau 3 published and owned by SKAO)
- ISO 14064 Greenhouse Gasses

Notified Bodies

Lloyd’s Register

Lloyd’s Register LROA

Vincotte
GeoSea has developed an integrated management system which has been improved continuously according to the needs of our external clients and internal organisation.

GeoSea speaks of an integrated system, because:

- The execution of our operational activities is based on a risk management system where the HS-hazards, E-aspects and Q-control are treated in an integrated way for every new project. Any possible risk is managed whether it is Q (quality), H (health), S (safety), or E (environmental) related.
- The various subjects, normally forming part of any management system standard, have been approached from a general QHSE perspective. Items like policies, damage control, legal and other requirements, organisational structures, resources, documentation requirements, communication, audits, monitoring & measurement, improvement actions and management review for QHSE aspects are treated in one single integrated management system. This results in a more compact system with improved efficiency and effectiveness.
- The risk control (QHSE) of the companies of GeoSea NV, GeoSea Luxembourg, GeoSea Australia and OWA is integrated in the one and only GeoSea QHSE management system. This system is based on one general QHSE GeoSea policy, a general action plan system to follow up all incidents, quality issues and non-conformities of every GeoSea company and all in line with the DEME expectations. Overall (QHSE) KPI’s are implemented in the organisation. During the yearly management review a representative of every company in the GeoSea group is present.

GeoSea is dealing with Engineering, Procurement, Construction and Installation (EPCI)-contracts. Project execution is the central element of GeoSea’s management system. It describes the main project execution processes and activities and is based on the large experience in the DEME Group. The EPCI project execution processes are used as a base to manage the individual site and vessel specific projects. GeoSea manages the activities of subcontractors and suppliers in the same way it manages its own specific activities.
GeoSea is increasingly concerned with achieving and demonstrating sound environmental performance by controlling the impacts of our activities, products and services on the environment, consistent with our QHSE policy and objectives.

Nowadays, environmental care and environmental performance are already an integrated part of GeoSea’s operations.

For starters, the environmental legal requirements of MARPOL (marine pollution) and Vlarem are strictly adhered to. QHSE checks, audits, risk assessments, method statements, … all take relevant environmental aspects into account.

On their own, however, these “checks” and “audits” may not be sufficient to provide an organisation with the assurance that its performance not only meets, but will continue to meet, its legal and policy requirements. To be effective, they need to be conducted within a structured management system that is integrated within the organization. Hence, the plan of GeoSea to implement and to certify to the environmental management system standard ISO14001:2004 before the end of 2014.

The implementation of an environmental management system specified by this International Standard is intended to result in improved environmental performance.
During the Management Review meeting, the GeoSea departments, together with Management decided to use a list of KPI's (Key Performance Indicators) to monitor and (if necessary) adjust GeoSea activities. KPI’s are placed at all levels of our organization, training, reporting, safety,…

In the graphs that follow, some of these KPI’s are published and discussed more detailed.

**Monthly safety meetings**

**Minimal 1 meeting per vessel / month**

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**Toolbox participations**

**Minimal 1.200 Toolbox participations / 100.000 working hours**
**Minimal 1 toolbox per employee per week**
SHOC

Safety observations are recorded on board of each vessel and on each project. A Safety Hazard Observation Card (SHOC) is used in the entire company. Everyone is encouraged to send in SHOC’s.

SHOC cards

Minimal 75 SHOC cards / 100,000 working hours
Minimal 3 SHOC cards per employee per year

Award: Best SHOC card of 2013

The essence of our QHSE Safety Hazard Observation Card system is to increase the safety, health, welfare and environmental awareness at work. The dynamic campaign that has been set up by the QHSE Department encourages own employees as well as subcontractors and suppliers on our project sites to use this system. The winning SHOC card, written by a subcontractor, reported an emergency exit being blocked by materials. These materials were immediately cleared after the SHOC card was received. Precisely because this SHOC cannot be linked directly to the project activities, but deals with the daily safety within the company, it shows that the message from DEME and GeoSea was well understood.

Serge Vleminckx received an award for promoting the SHOC system. Thanks to his commitment, the most SHOC cards were written on his ship.
Every project has the responsibility to control and inspect their work and workforce. This should be demonstrable and necessary actions should be taken in case of deficiency. Therefore, at GeoSea we highlight the importance of inspections conducted by each supervisor. Each superintendent up to Project Manager should perform one inspection per month; (barge) masters and chief engineers one per week.

**QHSE inspections**

**Minimal 1 inspection per operational staff member / month (green)**

**Minimal 1 inspection for every Master and every Chief Engineer / week (blue)**

**objective** Stimulate engagement of top, middle and vessel management by monitoring the number of inspections done.
Drills for emergency preparedness

Minimal 1 drill on each vessel per week

**Objective:** Prepare for emergencies by monitoring the number of drills.

- **Achieved:** Minimal 1 drill on each vessel per week
- **Target:** Minimal 1 drill on each vessel per week

![Graph showing the achieved and target rates for drills from January to December 2013.](image-url)
Incident management

Frequency rate DEME Group

Frequency rate DEME Group (as well as GeoSea) is calculated as follows:

\[
\text{(Number of LTI > 200,000)} / \text{Number of manhours worked}
\]

There was one lost time injury in 2013, which means that the LTI frequency rate was not at its minimal level for the first time in 4 years.

Frequency rate GeoSea

There was one lost time injury in 2013, which means that the LTI frequency rate was not at its minimal level for the first time in 4 years.
GeoSea project incident management

Type of reported incidents 2013

- 0 Fatal accidents
- 1 Lost time accidents
- 0 Restricted work cases
- 4 Cases medical treatment
- 3 First aid cases
- 20 Near misses
- 45 Dangerous situations
- 2495 SHOC cards
Vessel incident management

GeoSea tracks the number of days each vessel has gone without a Lost Time Injury being sustained.

The table below shows the results by vessel. The Zeebouwer leads the way with 2074 days without LTI’s. There has never been an LTI on the Neptune, Arista and Aquata. The number of days mentioned is the actual number of days since they became operational.

<table>
<thead>
<tr>
<th>Vessel name</th>
<th>Last LTI</th>
<th>Days since last LTI</th>
</tr>
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<tbody>
<tr>
<td>Neptune</td>
<td></td>
<td>690</td>
</tr>
<tr>
<td>Goliath</td>
<td>29/08/2009</td>
<td>1562</td>
</tr>
<tr>
<td>Vagant</td>
<td>6/03/2013</td>
<td>295</td>
</tr>
<tr>
<td>Buzzard</td>
<td>15/11/2008</td>
<td>1846</td>
</tr>
<tr>
<td>Arista</td>
<td></td>
<td>364</td>
</tr>
<tr>
<td>Aquata</td>
<td></td>
<td>364</td>
</tr>
<tr>
<td>Zeebouwer</td>
<td>27/03/2008</td>
<td>2074</td>
</tr>
<tr>
<td><strong>Fleet total</strong></td>
<td></td>
<td><strong>7195 days without LTI</strong></td>
</tr>
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</table>
Environmental incident management

Incident statistics differentiate between severe and minor environmental incidents. Severe environmental incidents are those which involve restitution costs (consequence > 3 in GeoSea’s Risk Matrix). No major environmental accidents were recorded in 2013, however 7 minor environmental incidents occurred. There were e.g. oil spills on the deck of a vessel, but without any spillage overboard.

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<tbody>
<tr>
<td>Severe environmental accident</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Minor environmental incidents</td>
<td>10</td>
<td>3</td>
<td>7</td>
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Focus on high potential incidents

During the analysis of the High Potential Incidents (HIPO’s) of 2013, we saw a new trend occurring! The most risky activities of GeoSea switched from Lifting activities in 2011 & 2012 to Marine Activities in 2013 …

It shows that we all have to be extremely vigilant when steel and cables, anchors and winches are used.

The amount of lifting HIPO’s that occurred in 2013 is significantly lower than the years before. GeoSea will continue to focus on the organisation of tailor made in-house trainings about tasks and responsibilities of the lifting team and the quality of the lifting gear.

The GeoSea Year Action Plan is adapted and launched, based on the final results of the HIPO evaluation of 2013.
175 incidents in 2013

45 HIPO’s

Lifting activities
13 HIPO’s

Working at height
8 HIPO’s

Marine activities
14 HIPO’s
GeoSea has competent persons with years of experience and correct training to stay up-to-date with innovations concerning techniques and safety subjects. They raise the quality and safety of the company by implementing these new improvements.

**Ratio between number of employees and number of QHSE engineers**

Safety is one of the core values of GeoSea. The importance of safety is showing in the personnel figures: 1 out of 10 is QHSE engineer. Besides these well-trained people in safety (a seminar called “QHSE 4 Specialists” is organized every year), all other employees receive several safety trainings, because everyone contributes to a safer work environment.

**HSE inductions**

New employees receive a company induction with QHSE items (company policy, risks related to the job, responsibilities, etc.) before they start working, on a project they receive a site and vessel induction.
BOSIET - STCW

Every GeoSea employee working offshore follows the basic offshore safety introduction & emergency response training (BOSIET).

97 % of employees, working on projects and 100 % of persons working on board has BOSIET or STCW certificate.

Internal training

Since 2012, DEME introduced an internal safety awareness course, obliged for all operational employees. This course consists of 3 parts:

**Safety Awareness**
The goals of the safety Awareness training are to give attention to safety and to specify why safety is so important. Through knowledge in accidents, incidents and near-misses and their causes and root causes, employees must be able to recognize specific dangers in their work.

**Risk Management**
In a Risk Management training, employees are taught how to prepare adequate risk analyses of their jobs and functions. They are also taught how to prepare and test an adequate Emergency Response Plan (which is linked to the identified risks).

**Incident Investigation and Leadership**
In this part of the course, employees receive knowledge in the consequences of an incident and the estimation of the actual potential of an incident and how to perform an incident investigation.

Employee safety award

Arian Van der Linden, senior technical superintendent, received the Employee Safety Award of 2013. Every day he puts tremendous efforts in supervising the technical aspects of our projects, whilst never losing sight of the safety of our activities. In 2013 he continuously kept high risks under control by keeping a finger on the pulse and reacting immediately whenever necessary.
On the 27th of November we had our third annual safety moment day. During this day we reflect on a HSE topic concerning all of us and therefore this is done globally.

This year’s topic was “Manual handling: mind your back”. This isn’t only a hazard that can be found in every imaginable environment i.e. workshop, vessel, office, etc. but it is also increasingly responsible for a larger portion of the lost time injuries.

To achieve this goal the corporate QHSE department gathered and designed multiple tools usable for further development of the safety awareness on our various departments. These included but were not limited to short animated movies, several informative posters, a toolbox, a checklist and others.

Furthermore, QHSE-corporate also arranged for an ergonomic specialist to give a presentation about the subject.

After having received both the toolbox and the information session given by an ergonomic specialist, all employees of the GeoSea division of the Deme group were prepared enough to tackle the task of performing a workplace inspection of their own workspace.

As a result we achieved an array of action items which lead to a safer work environment.
Projects in 2013

**Baltic 2, Germany**

Foundation works for offshore windfarm
- Prepiling of tripod foundations
- Tripod installation
- Piling and Installation of monopiles and transition pieces

**Haypoint, Australia**

Construction of coal export terminal
- Piling and drilling of foundations
- Jetty and berth construction

**Northwind, Belgium**

Design and construction of offshore windfarm
- Design and fabrication of foundations, cables and scour protection
- Piling and installation of monopiles and transition pieces
- Installation of cables and scour protection
- Transport and installation of wind turbines
**Belgian offshore grid, Belgium**

Offshore geotechnical soil investigation

**Thornton Bank, Belgium**

Installation of wind turbines
- Transport and installation of wind turbines
- Mechanical completion of wind turbines

**Belwind, Belgium**

Prepiling for jacket foundation

**Thornton Bank, Belgium**

Offshore maintenance activities

**Alpha Ventus, Germany**

Offshore maintenance activities

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**Award for best safety performance of 2013**

OWA: Thornton maintenance activities
In a quickly evolving company like GeoSea, it is crucial to share knowledge and to have up-to-date information at all times. Moreover, it is absolutely necessary to work with the right documents and to find these documents easily to increase the quality of our work.

Therefore, GeoSea is using an intranet application. Microsoft SharePoint technology is used to manage and share information.

After using the SharePoint technology as a document control tool, it was decided to explore more of the possibilities of the program. Since 2012 GeoSea integrated the entire training program and follow-up in SharePoint. This provided us with a general, complete and accessible database covering training in all its aspects. By taking out the delay in communication between project, vessel and corporate level, we are able to personalize and follow up all trainings better. Doing this, we are able to guarantee all of our clients competent and qualified personnel on our projects and vessels.

And there is more to explore in SharePoint...
GeoSea puts a lot of effort in managing its subcontractors. In 2013 we were able to reduce the amount of incidents during vessel maintenance, mobilisation and demobilisation of projects. We continue to report every dangerous situation.

During major repairs, mobilisation and demobilisation phases of a project, GeoSea implements the Blue File. The Blue File manual describes the way to manage these subcontractor activities on the work floor. Stringent use of the PTW system, daily coordination and kick-off meetings, inductions, security control and toolboxes are the ingredients of a well-organised Blue File manager.

A successful mobilization = Preparation & Communication