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1. INTRODUCTIE

Dit document beschrijft het Veiligheids- en calamiteitenplan voor het offshore windturbine park Brown Ridge Oost.

Het windturbinepark bestaat uit 94 Vestas V90 offshore windturbines met elk een vermogen van 3 MW. Elk van de turbines wordt geplaatst op een enkele paal (het paalfundering concept). De totale capaciteit van het park is 282 MW. Verder bevinden zich in het windpark twee transformatorstations. De windturbines en de transformatorstations zijn onderling verbonden met 22kV kabels. Van een transformatorstation loopt een 150 kV kabel naar de wal. Alle offshore kabels zijn ingegraven in de zeebodem.

Het project is ontwikkeld op initiatief van E-Connection Project BV (ECP).

De bouwcombinatie voor de realisatie van het windturbine park bestaat uit een samenwerkingsverband tussen Vestas Nederland Windtechnologie (VNW, onderdeel van Vestas Wind Systems A/S), Smulders en Mammoet van Oord (MvO) of een gelijkwaardige combinatie.

Voor een beschrijving van het windpark en de componenten waar deze uit is opgebouwd en de wijze waarop het transport en de installatie van deze componenten plaats zal vinden, wordt verwezen naar het Oprichtings- en constructieplan.

Dit rapport beschrijft de maatregelen welke de veiligheid gedurende de bouw van het windpark (hoofdstuk 3) en gedurende de operatie van het park c.q. het uitvoeren van onderhoud (hoofdstuk 4), waarborgen. Het calamiteitenplan voor transport en installatie van de windturbinepark componenten wordt gepresenteerd in hoofdstuk 5 en voor het onderhoud van het park in hoofdstuk 6.

2. DEFINITIES

ECP	E-Connection Project BV
kV	Kilo Volt
MOB	Man Overboard Boat
WT	Windturbine
WTG	Windturbine Generator

3. VEILIGHEIDSPLAN BETREFFENDE DE BOUW VAN HET PARK

3.1 INLEIDING

Voor de bouw van het windturbinepark geldt een nul-ongevallen beleid.

Werkzaamheden tijdens de bouw worden uitgevoerd in overeenstemming met de regelgeving in de Arbowet en SOLAS, aangevuld met specifieke bedrijfsveiligheidsplannen van Vestas en de consortiumpartners en met de nader op te stellen project specifieke veiligheidsplannen. Als voorbeeld van een bedrijfsveiligheidsplan is het Smit Safety Manual in Appendix C (inhoudsopgave en de beleidslijn) en het Smit Diving Manual in Appendix D (inhoudsopgave) opgenomen.

3.2 ORGANISATIE VAN DE WERKZAAMHEDEN

De bouwcombinatie voor de realisatie van het windturbine park bestaat uit een samenwerkingsverband tussen Vestas Nederland Windtechnologie (VNW, onderdeel van Vestas Wind Systems A/S), Smulders en Mammoet van Oord (MvO) of een gelijkwaardige combinatie.

De verantwoordelijkheden met betrekking tot veiligheid van het personeel, dat bij de bouw betrokken is, staat beschreven in het Health, Safety and Environmental Bridging document, dat in Appendix B te vinden is.

3.3 WERKZAAMHEDEN

3.3.1 Algemeen

De werkzaamheden tijdens transport en installatie van de fundatiepaal, mast, turbine, electrische kabel en het transformatorplatform zijn beschreven in het Oprichtings- en constructieplan.

3.3.2 Veiligheidsplannen

Er worden veiligheidsplannen geschreven en geïmplementeerd voor de verschillende deelprojecten. Deze veiligheidsplannen zullen op de werkplek beschikbaar zijn.

Voor de uitvoering van ieder werk zullen er ‘toolbox’ meetings worden gehouden. Er zullen op geregelde basis veiligheidsvergaderingen worden gehouden, waar de veiligheid op de werkplek zal worden geëvalueerd. Verder zullen er geregeld onaangekondigde safety audits worden gehouden op de verschillende werkplekken, welke gerapporteerd worden.

3.3.3 Personele eisen

Personeel zal worden getraind voor de project specifieke aspecten m.b.t. veiligheid. Het personeel dat offshore transport en installatiewerkzaamheden zal verrichten, heeft de relevante offshore trainingen ondergaan.

Personeel, werkzaam op de opbouwplaats en offshore zal in het bezit zijn van een ‘Safety Booklet’, waarin voor het project specifieke aanwijzingen m.b.t. persoonlijke bescherming worden gegeven. Het gebruik van persoonlijke beschermingsmiddelen zal voor eenieder verplicht zijn.

Het gebruik van alcohol en drugs op de werkplek is verboden.

3.3.4 Onderaannemers

Onderaannemers zullen werken volgens de veiligheidsprocedures, zoals deze opgelegd worden door de hoofdaannemer. Bezoekers worden verplicht zich op de hoogte te stellen van de geldende veiligheidsprocedures op de werkplek.

3.4 RISICO ANALYSE

Er zal voor aanvang van de uitvoering van de bouw van het windturbinepark een Risicoanalyse / Hazard Identification uitgevoerd worden; dit kan leiden tot het doorvoeren van kleine aanpassingen in het ontwerp en / of de bouw methodiek als de conclusies daar aanleiding toe geven.

4. VEILIGHEIDSPLAN BETREFFENDE ONDERHOUD

4.1 INLEIDING

Het windturbinepark is in principe onbemand gedurende de 20 jaar dat het in gebruik is. Alle windturbines en het transformator station staan onder permanente controle vanaf de wal.

Het onderhoud bestaat uit preventief onderhoud, dat gepland is, en correctief onderhoud in geval van een optredende fout in het systeem , dat ongepland is.

Het preventieve onderhoud van de fundatiepaal, mast, turbine, elektrische kabel en het transformatorplatform is beschreven in het Onderhoudsplan; inspecties zijn gepland jaarlijks plaats te vinden.

Onderhoud dient gepleegd te worden op veilige wijze, in overeenstemming met de regelgeving van de Arbowet en SOLAS en project specifieke veiligheidsplannen, zoals het concept veiligheidsplan voor Windpark Brown Ridge Oost. ‘Safety at offshore wind park Brown Ridge Oost’ in Appendix E.

4.2 ORGANISATIE VAN DE WERKZAAMHEDEN

Voor de controle over het park en het onderhoud aan de turbine, elektrische kabels en het transformatorplatform zal een aparte organisatie worden opgericht (anders dan de organisatie welke de bouw van het park verricht).

Voor de uitvoering van het onderhoud zal gebruik worden gemaakt van verschillende aannemers voor de verschillende activiteiten:

- transport per helikopter
- transport per schip
- duikwerkzaamheden
- onderwater inspectiewerkzaamheden
- onderhoud aan de turbine
- onderhoud aan het transformatorplatform
- inspectie van de kabel

4.3 TRANSPORT VAN MENSEN NAAR DE TURBINE

Voor onderhoud zal er personeel naar de windturbine en transformatorstation getransporteerd worden. Zowel preventief als correctief onderhoud van de windturbines zal per schip worden uitgevoerd.

Het onderhoudspersoneel zal zich toegang tot de turbine kunnen verschaffen via de bootlanding en de ladder naar het werkplatform, waar zich de ingang tot de binnenzijde van de mast zich bevindt. Via een ladder aan de binnenzijde van de mast is het mogelijk de gondel te bereiken.

4.4 BESCHRIJVING VAN DE WERKZAAMHEDEN

Voor een getailleerde beschrijving van de onderhoudswerkzaamheden in het windturbinepark wordt verwezen naar het Onderhoudsplan.

Voor onderhoudswerkzaamheden aan de windturbines wordt personeel per schip getransporteerd. Voor werkzaamheden aan het hoogspanningsstation kan een helikopter worden gebruikt voor het transport van personeel.

4.4.1 Per schip

De overstap van het schip naar de bootlanding wordt gedaan middels een MOB (Man Overboard Boat) met eigen voortstuwing.

Het overstappen van personeel van het schip op de ladder van de turbine gebeurt alleen als de omgevingscondities dat toestaan, een en ander ter beoordeling van de dienstdoende kapitein; de kapitein van het schip draagt de verantwoordelijkheid voor een veilige overstap.

Er zullen ten alle tijden minimaal 2 personen aan boord van de turbine of transformatorplatform gaan. In de turbine is een eerste hulp set aanwezig. Deze zullen voorzien zijn van persoonlijke beschermingsmiddelen; dat zijn:

- voor de overstap: reddingsvest
- voor de overstap: overlevingspak
- VHS sets, in verbinding met het schip en met de MOB
- het personeel heeft de relevante offshore trainingen ondergaan

De MOB zal in de directe omgeving van de turbine of transformatorplatform blijven zolang al het personeel zich nog niet op het werkplatform (of in de turbine) bevind.

Bij het aan boord gaan van de turbine zal het onderhoudspersoneel als eerste de communicatie met het schip en MOB controleren, alsmede de in de turbine aanwezige noodvoorraden.

De omgevingscondities (wind en golven) worden gedurende de onderhoudswerkzaamheden op continu basis gemonitored door de kapitein. Indien een verslechtering optreedt die een overstap van de turbine, via de MOB, terug naar het schip onmogelijk zou kunnen maken, wordt het onderhoudswerk gestopt en vindt de overstap plaats.

4.4.2 Per helikopter

De overstap van de helikopter naar het hoogspanningsstation geschiedt via het helikopter landingsplatform. Personeel wordt vanuit de helikopter, welke niet zal landen op het hoogspannigsstation, naar beneden gelaten.

Het overstappen van personeel van de helikopter op de turbine gebeurt alleen als de omgevingscondities dat toestaan, een en ander ter beoordeling van de helikopterpiloot.

Er zullen ten alle tijden minimaal 2 personen aan boord van het transformatorplatform gaan. Deze zullen voorzien zijn van persoonlijke beschermingsmiddelen, gelijk aan het geval van een overstap per schip.

Voor gedetailleerde procedure m.b.t. de overstap per helikopter, zie ‘Safety at offshore wind park Brown Ridge Oost’ in Appendix E (Doc. RV.SAF.RWS-Rev.A).

5. CALAMITEITENPLAN BETREFFENDE DE BOUW VAN HET PARK

5.1 ORGANISATIE

De supervisor is het eerste aanspreekpunt in geval van een calamiteit. De coördinatie in geval van een calamiteit zal plaatsvinden vanuit het project kantoor op de wal.

Namen met telefoonnummers van relevante contactpersonen worden opgesteld.

Al het personeel dat offshore tewerkgesteld zal worden, zal in het bezit zijn van de benodigde gezondheidscertificaten.

5.2 PROCEDURE

De te volgen procedure in geval van calamiteiten tijdens de bouw zal worden omschreven in de veiligheidsplannen voor de specifieke sub-projecten, welke ontwikkeld zullen worden gedurende de detail engineeringsfase van het park.

In geval van een calamiteit zal er direct eerste hulp worden gegeven aan het slachtoffer. Indien noodzakelijk en de staat van het slachtoffer dat toestaat zal het slachtoffer van de plek des onheils verwijderd worden.

Er zal communicatie betreffende de calamiteit plaatsvinden tussen het personeel op de werkplek, de supervisor en – indien offshore- met het begeleidende schip. Verder zal het projectkantoor op de wal op de hoogte gesteld worden.

Vervolgens zullen er corrigerende maatregelen genomen worden, zoals omschreven in de betreffende procedures. Indien evacuatie van de werkplek nodig blijkt, dan zal dit door de supervisor worden gecoördineerd.

Na het optreden van persoonlijke ongelukken en bijna-ongelukken zal dit worden gerapporteerd door de veiligheidsfunctionaris, op grond van interviews met de betrokkenen. Indien op grond van de conclusies daar de noodzaak toe mocht blijken, zullen er veranderingen in het ontwerp en / of de werkmethodiek worden doorgevoerd.

6. CALAMITEITENPLAN BETREFFENDE ONDERHOUD

6.1 INLEIDING

Calamiteiten kunnen zich voordoen tijdens het bedrijf van het windturbinepark of gedurende onderhoudswerkzaamheden aan het park.

6.2 OPTREDEN V/E FOUT IN WINDTURBINE / TRANSFORMATOR PLATFORM

Het windturbinepark is in principe onbemand gedurende de 20 jaar dat het in gebruik is. Iedere windturbine en het transformator station worden van afstand, vanaf de wal, gemonitored. Daardoor zullen zich tijdens normaal bedrijf geen persoonlijke ongevallen kunnen voordoen.

Een calamiteit kan hooguit ontstaan bij toegang tot het park door onbevoegden. Bij alle bootlandingen zullen waarschuwingen worden aangebracht, waarbij wordt gewezen op eventuele gevaren. Toegang tot de turbine en transformator platform via de bootlanding wordt geblokkeerd door een gesloten deur; alleen de beheerder van het park kan toegang verlenen.

In geval van een calamiteit aan een windturbine, elektrische kabel of het transformator platform gedurende het gebruik, kan dit aan de wal geconstateerd worden en kan er actie worden ondernomen, in het geval dat de het besturingssysteem van de turbine / transformator station zelf niet reeds actie heeft ondernomen.

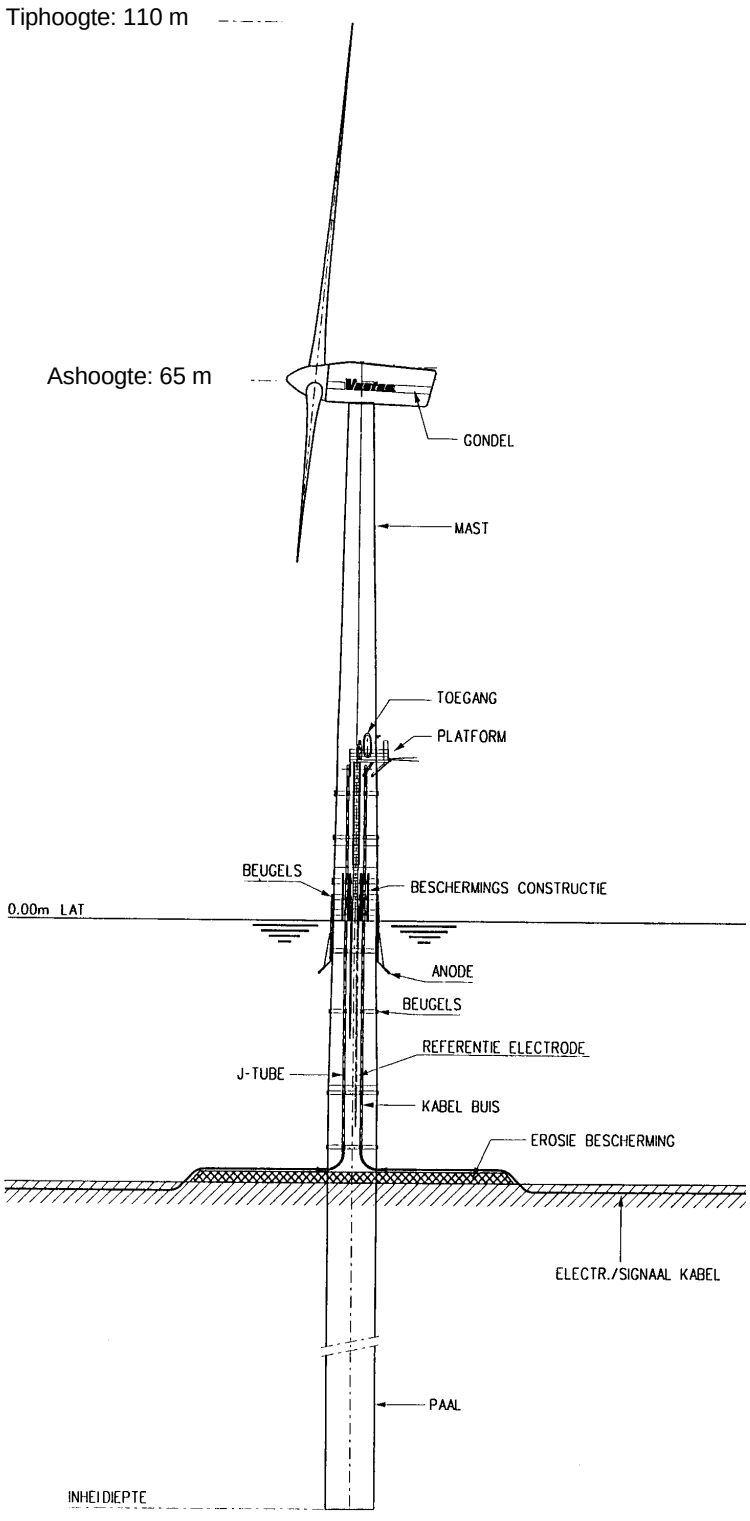
6.3 CALAMITEIT GEDURENDE DE ONDERHOUDSWERKZAAMHEDEN.

Voor onderhoud zal er personeel naar de windturbine / transformator platform getransporteerd worden. Dit kan per helikopter of per schip. In geval van calamiteit gedurende het onderhoud aan de turbines en het transformatorplatform zal de volgende procedure van kracht worden:

1. er zal directe melding worden gemaakt aan de bemanning van het onderhoudsschip
2. er zal directe melding worden gemaakt aan het controle station op de wal; verdere acties zullen vanuit het controle station worden gecoördineerd
3. het slachtoffer zal uit de buurt van een eventueel bedreigende situatie gehaald worden, indien mogelijk. Eerste hulp zal worden verleend.
4. afhankelijk van de staat van het slachtoffer zal deze op eigen kracht of per brancard worden vervoerd, via het helikopter platform naar de wal of via de bootlanding en het onderhoudsschip naar de wal . Het overige personeel op de turbine / transformatorplatform zal met het slachtoffer mee reizen, terug naar de wal.
5. er zal een incident report opgesteld worden
6. naar aanleiding van de conclusies uit het rapport zullen aanbevelingen voor veiliger werkmethodes worden doorgevoerd.

APPENDIX A

ALGEMEEN PLAN WINDTURBINE



APPENDIX B

HEALTH, SAFETY AND ENVIRONMENTAL BRIDGING DOCUMENT

HEALTH, SAFETY AND ENVIRONMENT
BRIDGING DOCUMENT

FOR

OFFSHORE WINDPARK
Brown Ridge Oost

PREPARED BY

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1. INTRODUCTION

1.1. GENERAL

This Bridging Document for the Health, Safety and Environment aspects of the project describes the management system for HSE aspects that can be adopted by the Consortium members for the work to be carried out under the contract for design, procurement, transportation and installation of the Offshore Wind Park.

Furthermore this Health, Safety and Environment Bridging Document sets out the philosophy, policy and objectives for management of HSE aspects throughout the duration of the whole project and describes how health and safety activities on the project are organised and how HSE management is performed.

This Project Health, Safety and Environment Bridging Document will be the basis for all further HSE documentation that need to be developed for the project.

For each of the two sub-projects (Turbines & Foundations and Electrical Infrastructure) a complete HSE plan will be developed and implemented.

A copy of this Project Health, Safety and Environment Bridging Document will be available on all work locations and all personnel will be given an introduction to the contents hereof.

1.2. APPLICATION

This Project Health, Safety and Environment Bridging Document is applicable to all HSE activities to be carried out under the contract from contract award up to commissioning.

1.3. UPDATES AND REVISIONS

As more details of the project are developed, or additional HSE requirements may have to be implemented, this Project Health, Safety and Environment Bridging Document or any other HSE document may be updated in order to include such revised requirements.

Revisions of this document will be issued and controlled in accordance with the quality management system procedure for control of documents.

1.4. REFERENCES

Document no.	Title/Description
Contract	Contract between (Client) and the Consortium SMC-ABB-VNW.
xxxx xxxx	Overall Project Quality Plan
yyyy yyyy	Master Document Register

1.5. ABBREVIATIONS

For easy and quick reference the following abbreviations are used in this document.

Client	(Client)
T&F	Turbines and Foundations
EI	Electrical Infrastructure
HSE	Health, Safety and Environment
ARBO	Working Environment (ARBO-wet)
SOLAS	Safety of Life at Sea
PPE	Personal Protective Equipment (Persoonlijke Beschermings middelen)
ALARP	As Low As Reasonably Practical

2. OBJECTIVES, PHILOSOPHY AND POLICY

2.1. OBJECTIVES AND PHILOSOPHY

The objective of the management of the Consortium Brown Ridge Oost-WP is to fulfil the obligations under the contract, including the governing laws, and regulations, without any lost time accidents, damage to property or to the environment all in a systematic and structured manner in order to reduce the probability of incidents or accidents to as low as reasonably practicable (ALARP).

This Health, Safety and Environment (HSE) Bridging Document has been developed and will be implemented to assist project personnel to achieve this objective.

The philosophy of the management of the Consortium is that safety is the number one concern and that no operation has priority over safety.

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Consortium Project Manager

2.2. HEALTH, SAFETY AND ENVIRONMENT PROTECTION POLICY

Health, safety and welfare are key elements of the most important objectives of the Consortium. Every discipline will achieve its objectives by carrying out its activities in such a way that neither its employees nor its subcontractors or other parties involved in its activities will be exposed to unnecessary risks.

The management of the Consortium is convinced that safe working methods and a constant care for the environment directly contribute to the efficiency and the success of its activities.
Health, safety, welfare, and care for the environment are direct management responsibilities of the managerial staff and are of equal importance to any other major objectives of the Consortium.

For optimal performance, the continuous involvement of each employee is of vital importance to achieve the company objectives with respect to health, safety and welfare. It is the aim of the management of the Consortium that its employees are sufficiently trained and experienced to contribute substantially to this involvement.

The management of the Consortium stimulates and promotes the active participation of all its employees in the development and maintenance of instructions to promote health and safety at the workplace. The employees are responsible for their own activities and for the protection of themselves and others. They are also responsible for the prevention of damage to the environment.

The management of the Consortium has established the following objectives:

a. the promotion of safe workplaces;
b. to create a safe and healthy place of work and to prevent damage to the environment;
c. to ensure effective training of its employees, so that they can perform their duties safely;
d. the development (promotion) of a high degree of safety conscience and also the concern of the managerial staff for the environment;
e. to provide specialist advice for the company line management concerning health, safety and welfare and provision of a result measuring system;
f. to establish an efficient system for mutual consideration with respect to health, safety and welfare.

Through the implementation of this policy, the management of the Consortium aims to prevent (eliminate) work related injuries and occupational illness, also to achieve the highest standard of care for the environment.

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Consortium Project Manager

3. ORGANISATION

3.1. GENERAL

The management of the Consortium has established a project organisation to perform the work. The overall responsibility for management of the project rests with the Consortium project manager.

The health, safety and environment protection policy of the Consortium and applicable legislation impose responsibility on the management, supervisors and individual employees.

3.2. PROJECT ORGANISATION CHART

The project organisation is a matrix organisation whereby from each Consortium partner personnel are selected for the project team.

The organisation chart is to present the lines of responsibility and communications during preparatory phase and during the operations phase.

3.3. RESPONSIBILITIES

Responsibilities and authorities are laid down in the general job descriptions.
The main project related responsibilities within the project team with respect to HSE aspects are detailed in the following paragraphs.

3.3.1. Individual Employee

Each individual employee is responsible to carry out his/her work in a safe manner and in accordance with the requirements of the Consortium Health, Safety and Environment Protection Policy and the applicable Sub-project HSE Plan.

Each individual employee shall familiarise with and make use of any information issued by the Consortium relating to safety and working environment matters.

Each individual employee shall inform his/her supervisor and/or the safety officer and/or the safety manager of any potential hazard which he/she may identify during his/her work.

No one shall undertake any tasks unless he/she has received adequate instruction and information, appropriate tools and equipment or protective clothing.
If in doubt he/she shall seek guidance in procedures or contact his/her supervisor.

Each employee has a duty to ensure that he/she does not compromise the safety and integrity of any plant or equipment and to carry out his/her tasks in such a manner that his/her own safety or the safety of others is not endangered.

3.3.2. Consortium Project Manager

The Consortium project manager reports to the board of the Consortium and is ultimately responsible for all HSE activities in relation to the project.

In addition to the responsibilities of each individual employee the Consortium project manager is responsible for the implementation of the Project HSE programme, which consists of this bridging document and the respective HSE Plans and any other HSE related procedure or instruction.

3.3.3. Project Safety Manager

The safety manager reports to the Consortium project manager but also has a direct reporting line to the board of the Consortium. He liaises with the safety co-ordinators of the sub-projects.
In addition to the responsibilities of each individual employee the safety manager is responsible to verify the implementation of the project related HSE documentation, procedures or instructions.

3.3.4. Project Manager Sub-Project

The project manager of each sub-project reports to the Consortium project manager
He has overall responsibility for all HSE activities of the sub-project under his supervision.
In addition to the responsibilities of each individual employee the project manager for each sub-project is responsible for the implementation of the Project HSE programme and any other HSE documentation within the sub-project.

3.3.5. Safety Co-ordinator Sub-Project

The safety co-ordinator for each sub-project reports to the project manager of the sub-project, but also has a direct reporting line to the safety manager of the project.
In addition to the responsibilities of each individual employee the safety co-ordinator of a sub-project is responsible for the co-ordination of all HSE activities of the sub-project.

3.4. PERSONNEL SELECTION

Competence and qualifications on safety aspects of all personnel are very important aspects. Therefore all personnel that will be selected to be employed on the project will have the required training for the job.

3.5. SAFETY TRAINING AND AWARENESS

3.5.1. Safety training requirements

An inventory will be made in order to establish any additional safety training required above the standard training for the job.

3.5.2. Safety Awareness

Each new employee will receive an outline of his/her job including the safety aspects thereof from his/her supervisor. This instruction includes work procedures, safe practices, where applicable regulatory safety rules.

During the periodic safety meetings possible hazards, problems on the job and related safe practices will be emphasised and discussed.

Prior to the start of non routine operations, a safety briefing will be given by the responsible supervisor.

4. HEALTH/MEDICAL

This chapter describes aspects of the health and medical aspects of the work to be performed.

All personnel which will be employed on the project shall be in the possession of a valid health certificate. Medical examinations shall be carried out prior to employment and subsequent once a year.

On various work locations a sick bay is available, and onshore medical aid can be obtained from the nearest hospital.

When work has to be carried out which can effect the health of personnel involved, special precautions will be taken. This is the case when working with hydrocarbons (fuel) or welding (welding fumes) are should it become necessary to carry out radiography (radiation).

5. GENERAL SAFETY PROCEDURES

5.1. GENERAL

The safety procedures will be further developed for the various activities.
This chapter describes and puts emphasis on the project related safety procedures.
The supervisors on each work locations are responsible to implement the safety procedures in the area under their supervision. On board of vessel the captain of the vessel shall maintain a register of all personnel (incl. Client's personnel and visitors) on board on a daily basis.

5.2. PROGRAM

A safety program for each sub-project will be developed and implemented and wil l be detailed in the sub-project HSE Plan.
The main part is the induction of personnel in respect of the specific project safety requirements. Prior to the start of the work safety meetings will be held, during which the project safety rules, regulations and applicable procedures will be introduced.

During the course of the project regular safety meetings will be held in order to update safety requirements.
Each new employee will receive induction from his/her supervisor outline of his/her job including the safety aspects thereof.
Furthermore all procedures and practices as will be further developed and implemented shall be adhered to.

5.3. SAFETY MEETINGS

5.3.1. General

In order to maintain and enhance the safety awareness of site personnel and crew members on vessels, safety meetings will be organised.

All safety meetings will be minuted, with action items, and copy of the minutes will be sent to all the project safety manager. Safety meetings will be held with a frequency of once per week minimum. Meetings will be attended by all personnel directly involved in the operations and will be chaired by the supervisor on the location.

5.3.2. Other

All project personnel will be obliged, and also visitors to the site locations and vessels will be encouraged, to actively contribute to the safety of the work and to identify any safety topic.
Toolbox (or informal) safety meetings will be organised before undertaking any non-routine or unusual activity.

5.4. INCIDENT REPORTING

5.4.1. General

Reporting of incidents/accidents is emphasised, not to punish individuals, but, in order to improve the work system.
In this section the term 'Incident' is used for any unwanted event or dangerous situation which caused or could have caused injury or illness to personnel and/or damage to the environment or to property.

Reporting of incidents and administration of safety statistics will be performed in accordance with this Project HSE Bridging Document.
In addition to the standard procedure of reporting incidents/accidents to the Consortium shore organisation, also Client shall immediately be informed.
Safety topics will be part of the periodic reporting to Client.

5.5. PERSONAL PROTECTIVE EQUIPMENT (PPE)

The use of PPE for the personnel on the various work locations is mandatory in accordance with standard procedures and practices and as required on vessels.
Also visitors to the work locations and Client's personnel shall be obliged to comply with these procedures and practices.

5.6. WORK PERMITS

For the various work locations work permit systems will be used
These are applicable for electrical work (incl. use of electrical tools) and hot work (incl.: welding, burning, flame work, chiselling, or any other activity that may cause ignition or explosion at the work environment).

5.7. SAFETY BOOKLET

A safety booklet will be prepared and will be issued to all personnel involved in the project.

5.8. DANGEROUS GOODS

All dangerous goods (incl. fuel) shall be handled and stored in accordance with the requirements for such goods as prescribed by law or by the manufacturer (product data sheets) in order not to endanger the health of people or the safety of the environment and/or property.

5.9. SAFETY AUDITS/INSPECTIONS/CERTIFICATES

In order to obtain information about safe working practices and circumstances, safety audits may be conducted.
In addition to these safety audits supervisory personnel will perform routine inspections (incl. safety aspects) on all work locations.
All inspections shall be properly recorded and safety audits reported, with proposed safety improvement measures.

5.10. ALCOHOL/DRUGS

The use and possession of alcoholic beverages and drugs on the various work locations shall be forbidden.
This means that drugs of any kind or any other intoxicating substance are not permitted unless specifically required for medical use or other proper reasons.
Anyone who has medicine prescribed by a doctor has to inform his supervisor when arriving on the work location.

It is the responsibility of supervisors to ensure that personnel under their control and authority are not under influence of alcohol or drugs. Ignoring this policy will lead to immediate dismissal from the project.

6. EMERGENCIES

6.1. GENERAL

This chapter describes the main activities that are applicable in emergency situations.

6.2. EMERGENCY COMMUNICATIONS

In an emergency situation communications will be carried out as detailed in the Emergency Telephone List.

The focal point in emergency communications in the first instance is the supervisor on the work location. When an incident or accident is reported he will decide on further actions.

If interfaces with Client or local authorities are necessary these will be arranged by the supervisor.

6.3. FIRST AID

On the various work locations comprehensive set of first aid equipment are provided. On vessels these are based flag/state and international SOLAS regulations.

6.4. CONTINGENCIES

Contingencies with respect to the performance of the work are identified in engineering phase when the detailed work procedures are developed.

In the detailed work procedures dedicated chapters will address the contingency situations and the proposed action to deal with the situation.

6.5. EVACUATION

Should it become necessary to evacuate personnel from a work location in an emergency situation, this will be co-ordinated by the supervisor.

7. RISK MANAGEMENT

It is standard procedure of the Consortium to carry out an identification of hazards in relation to the various activities to be carried out and to make an assessment of the risks for personnel, equipment and material.
Well in advance of the actual activities the project team will carry out a hazards identification and during a risk assessment meeting. For each hazard a critically factor will be established.

The results of the risk assessment meeting will be presented in a Hazid & Risk Assessment Report. This report will contain a list of identified hazards and for each hazard a table of the assessment of the risks. Each table will provide:

- description of the operation,
- description of the activity,
- identified hazard,
- possible/potential effects to people and equipment,
- criticality factor for the risk,
- proposed risk reduction measures (“Plan van Aanpak”),
- any other safety requirement,
- the residual risk.

Should it be necessary to perform any further study of possible hazards/risks personnel will participate in further HAZOPS studies.

8. ENVIRONMENT PROTECTION

The protection of the environment is a main concern of the management of the Consortium and therefore the operations are conducted in such a way that no damage to the environment is caused.

The detailed operational procedures will be developed and will include every practical method and precaution as not to cause harm to the environment.
In particular sites of special interest will be addressed.

All work locations will be kept in a tidy state and waste materials will be collected and stored properly so they will not come into the environment, even in adverse weather conditions. Special attention will be given to the storage of materials that are potentially damaging to the environment (hydrocarbons, paints, thinners, chemicals, etc.), The storage facility will include provision for spillage containment. Sufficient stock of material and equipment to mitigate any effect of accidental spillage will be available and immediate action will be taken as to minimise any impact of accidental spillage. The Consortium will immediately notify Client of any accidental spillage and the action taken.

Reporting of accidental spillage will be carried out in accordance with procedure for reporting of incidents, but the reporting shall also include reporting to authorities (if applicable) and Client.

APPENDIX C

SAFETY MANUAL CONTRACTOR

DOCUMENT AUTHORIZATION	
Checked by	:
Date	:
Signature	:
Approved by	:
Date	:
Signature	:

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Signature	:
Stamp	:

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1.0 GENERAL RESPONSIBILITY

It is not only a responsibility of key-personnel to assure safety, a safe working environment and safe working practices. It is the responsibility of all personnel of the Smit International Group to work safely and to protect themselves and others, in adherence to basic principles.

1. Establish and asses risks. Think about and control the safety hazards before starting work.
2. Get to know who you are working with.
3. Consult with other personnel to ensure that one activity does not jeopardise another.
4. Ensure that all applicable rules and regulations are fully understood and strictly adhered to.
5. Be attentive for unsafe situations.
6. Do everything possible to work safely and to maintain discipline.
7. Correct others immediately and effectively when they do not work safe.
8. Respond positively if corrected by other personnel.
9. Report unsafe (working) conditions immediately to your supervisor.
10. Inspect sensible and regular.
11. Set an example yourself.
12. Participate in safety meetings.

2.0 DOCUMENT CONTROL

2.1 ORIGINAL

The Corporate Quality and Safety Manager shall hold the original of this Manual on behalf of the Managing Director.

2.2 MASTER COPIES

The Corporate Quality and Safety Manager will issue Master-Copies of this Manual as indicated in the following Distribution List to the Master-Copy Holders:

Corporate Safety Manager (for corporate dept's and vice pres. and group managers) [no. 1]

Area Manager Europe
[no. 2: Maritime Contracting, no. 3: Port & Coastal, no. 4: Offshore Shipping]

Area Manager Far East [no. 5]

Area Manager Americas [no. 6]

2.3 OBLIGATION OF MASTER-COPY HOLDERS

Each Master-Copy holder has the obligation to copy and promulgate this Manual in his/her organisation in such a manner that each and every employee is able to consult a site (= work location) copy of this Manual at all times or incorporate all applicable sections in unit safety manual.

Each Master-Copy holder is responsible for keeping a record to whom site copies of their Master Copy and changes or revisions have been issued. This may be delegated to designated persons in their organisation, but traceability of copies and changes must always be ensured, e.g. by keeping a transmittal form record.

2.4 COPYING THIS MANUAL

Apart from the above, it is not permitted to copy (parts of) this Manual. In case it is absolutely necessary to make copies such copies remain valid only for the date they were made and will not be corrected or revised. After use such copied documents shall be destroyed.

2.5 DISTRIBUTION OUTSIDE SMIT

Managers at Business Unit level and higher up in the organisation are authorised to issue copies of this Manual or parts of this Manual to 3rd parties for business purposes only, the Corporate Quality and Safety Manager is also equally authorised.

2.6 TRANSLATIONS & ADAPTATIONS TO THIS MANUAL

It is recognised that at certain sites a necessity exists to have this manual available in an other language. Business Unit Managers are authorised to (freely) translate (part of) this Manual without prior consent, provided the nature and scope of the contents of this Manual are maintained.

2.7 PROPOSAL FOR CHANGES

Changes to this Manual may be proposed by each employee. Such proposals shall be put to their Line Manager and a copy shall be sent to the Corporate Quality and Safety Manager.

2.8 REVISIONS OF THIS MANUAL

Changes to this Manual will be made by issuing a complete new version of the total manual. Revision numbers and changes are listed below.

REVISION	DATE	DESCRIPTION
0	20/02/91	First issue
1	01/03/95	Complete revision
2	01/12/97	Complete revision

3.0 INTRODUCTION

3.1 GENERAL

This Manual shall be read in conjunction with all applicable

- national and international legislation
  - port and flag state legislation
  - local rules and regulations
  - the accepted industry standards
  - instruction manuals
  - operational manuals
  - directions for use
- contract safety requirements

Where policies, procedures, methods or legislation conflict, Smit International company employees should comply with the company policies and procedures and additional requirements are issued by the controller of the worksite. In case of doubt advice shall be sought from the Line Manager.

This Safety Manual sets out the methods and procedures used by the Smit International Group to ensure that the necessary efforts are made to guarantee health and safety of the personnel and the care for the environment and to prevent damage to property.

This Safety Manual is the basic guide for all personnel.

3.2 HEALTH, SAFETY AND ENVIRONMENT PROTECTION POLICY

Health, safety and welfare are key elements of the most important objectives of Smit International. Every business unit will achieve its objectives by carrying out its activities in such a way that neither its employees nor its subcontractors or other parties involved in its activities will be exposed to unnecessary risks.

Smit International is convinced that safe working methods and a constant care for the environment directly contribute to the efficiency and the success of its activities.

Health, safety, welfare, and care for the environment are direct management responsibilities of the managerial staff and are of equal importance to any other major objectives of Smit International.

For optimal performance, the continuous involvement of each employee is of vital importance to achieve the company objectives with respect to health, safety and welfare. It is the aim of Smit International that its employees are sufficiently trained and experienced to contribute substantially to this involvement.

Smit International stimulates and promotes the active participation of all its employees in the development and maintenance of instructions to promote health and safety at the workplace.

The employees are responsible for their own activities and for the protection of themselves and others. They are also responsible for the prevention of damage to the environment.

Smit International has established the following objectives:

a. the promotion of safe workplaces;
b. to create a safe and healthy place of work and to prevent damage to the environment;
c. to ensure effective training of its employees, so that they can perform their duties safely;
d. the development (promotion) of a high degree of safety conscience and also the concern of the managerial staff for the environment;
e. to provide specialist advice for the company line management concerning health, safety and welfare and provision of a result measuring system;
f. to establish an efficient system for mutual consideration with respect to health, safety and welfare.

Through the implementation of this policy, Smit International aims to prevent (eliminate) work related injuries and occupational illness, also to achieve the highest standard of care for the environment.

3.3 ADHERENCE TO POLICIES AND PROCEDURES

All personnel, under control of Smit and visitors to a Smit controlled site or unit must comply with the safety procedures and regulations. They should familiarize themselves with the use and location of the safety equipment and muster stations.

The Line Manager has the responsibility that the above mentioned policy will be adhered to.

3.4 LEGISLATION

All Smit activities will be conducted in accordance with the relevant legislative requirements (see Introduction - General). Also industry rules and regulations providing guidance on safe working practices will be adopted and implemented.

This manual shall not take precedence over any applicable law or governmental regulations.

3.5 INTEGRATION OF HEALTH, SAFETY, ENVIRONMENTAL CARE AND QUALITY

Where in this manual "safety" is mentioned the subject applies also to

- health aspects
- environmental care aspects
- quality aspects

The Smit Group refuses to see the above elements of the business in isolation and throughout the Organisation it should be endeavoured to integrate these aspects as much as possible.

3.6 NO BLAME CULTURE

In the Group a "no blame" culture shall be nurtured with open reporting. The objective is to bring shortcomings to light, to learn from them and to prevent recurrence. However, blatant disregard for procedures and working instructions may lead to disciplinary action.

3.7 DEFINITIONS AND ABBREVIATIONS

The following definitions and abbreviations shall be used.

Accident	-	Any event which caused injury or illness to personnel and/or damage to the environment and assets.
Assets	-	Materials, equipment, and systems property
Company	-	A company belonging to the Smit International Group or a company of which Smit holds > 50% of the shares.
DIS	-	Permanent DISability, the person involved is unable to continue to work in his/her initial position due to a physical disablement.
FAC	-	First Aid treatment Case: the person involved is able to continue to work after treatment on the site by NON professional medical personnel (e.g. after applying a bandage, after an eyewash, treatment of insect sting etc.)
FAT	-	FATality
Immersion suit	-	Survival suit with attached boots and gloves.
Incident	-	Any unwanted event or dangerous situation which caused or could have caused injury or illness to personnel and/or damage to the environment and assets.
IAR	-	Incident/Accident Report: A report which shows the information about incidents or accidents.
LTA	-	Lost Time Accident: An accident whereby the employee is not fit to resume his work next shift.
LTFR	-	Lost Time Frequency Rate: The number of lost time accidents per million man hours worked.

MTC	-	Medical Treatment Case the person involved is able to continue to work after treatment by PROFESSIONAL medical personnel (e.g.) after stitching, wound dressing, burn treatment, stressed muscle treatment in a clinic, hospital, doctors office, the units clinic/hospital)
Near Miss	-	an incident that could have resulted in injury or damage to assets or environment
Oil skin	-	Foul weather clothing without floating device.
PMS	-	Planned Maintenance System.
Safety	-	All the activities performed to prevent damage or loss to personnel, environment and assets.
SCBA	-	Self Contained Breathing Apparatus.
SOPEP	-	Shipboard Oil Pollution Emergency Plan
SR1	-	Severity Rate 1: A indicative figure for the severity of lost time incidents. The figure is calculated by dividing the number of lost time days caused by accidents by the total number of manhours worked and multiplied by a million.
SR2	-	Severity Rate 2: The average number of days lost per lost time accident.
Survival suit	-	Foul weather suit with floating device.
Unit	-	Unit/Project/Site/Warehouse/Office of Smit International.
VGW	-	Veiligheid Gezondheid Welzijn (Safety Health Welfare)

APPENDIX D

SMIT DIVING MANUAL

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