

1287-93



NoordzeeWind



Near Shore Windpark

Wbr/Wm vergunningaanvraag NSW

Bijlage V:

- Veiligheids- en Calamiteitenplan -



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Document opgemaakt ten behoeve van Wbr/Wm vergunningaanvraag Near Shore Windpark.

Opgemaakt door:
NoordzeeWind consortium

Bestaande uit:

Shell Wind Energy BV
NV NUON Duurzame Energie

Aangeboden aan:
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AFKORTINGEN

| | |
|--------------|--|
| EZ | Ministerie van Economische Zaken; |
| HAT | Highest Astronomical Tide; |
| HSE | Health, Safety and Environment (Engels equivalent van VGM) |
| IALA | International Association of Marine Aids to Navigation and Lighthouse Authorities; |
| I-MER | Inrichtings Milieu Effect Rapportage; |
| LAT | Lowest Astronomical Tide; |
| MEP | Monitoring- en Evaluatie Programma; |
| MSL | Mean Sea Level; |
| NSW | Near Shore Windpark; |
| Pkb | Planologische Kern Beslissing. |
| VGM | Veiligheid, Gezondheid en Milieu |
| Wbr | Wet beheer rijkswaterstaatswerken |
| Wm | Wet milieubeheer |
| WTG | Wind turbine generator |



1 INLEIDING

De toepassing van windenergie op zee is een onderdeel van het overheidsbeleid om te komen tot een duurzame energievoorziening in Nederland. Het kabinet heeft daarom besloten de bouw van het demonstratieproject Near Shore Windpark (NSW) mogelijk te maken. Het belangrijkste doel van het NSW is kennis en ervaring opdoen met het bouwen en exploiteren van grote offshore windparken op de Noordzee. Het kabinet wijst in de Vijfde Nota Ruimtelijke Ordening voorkeursgebieden aan voor de plaatsing van grootschalige windparken in de Nederlandse Exclusieve Economische Zone op de Noordzee. De kennis die met het NSW wordt opgedaan moet beschikbaar komen voor alle partijen die betrokken zijn bij de realisatie van die grootschalige windparken. Om deze kennis te vergaren en toegankelijk te maken is aan het NSW een uitgebreid Monitoring- en Evaluatieprogramma gekoppeld, het MEP-NSW.

De functie van het MEP-NSW is het registreren van economische, technische, ecologische en maatschappelijke effecten.

Dit document beschrijft het veiligheids- en calamiteitenplan van het Near Shore Windpark nabij Egmond aan Zee. Het document maakt deel uit van de aanvraag van de Wbr/Wm vergunning voor het Near Shore Windpark.

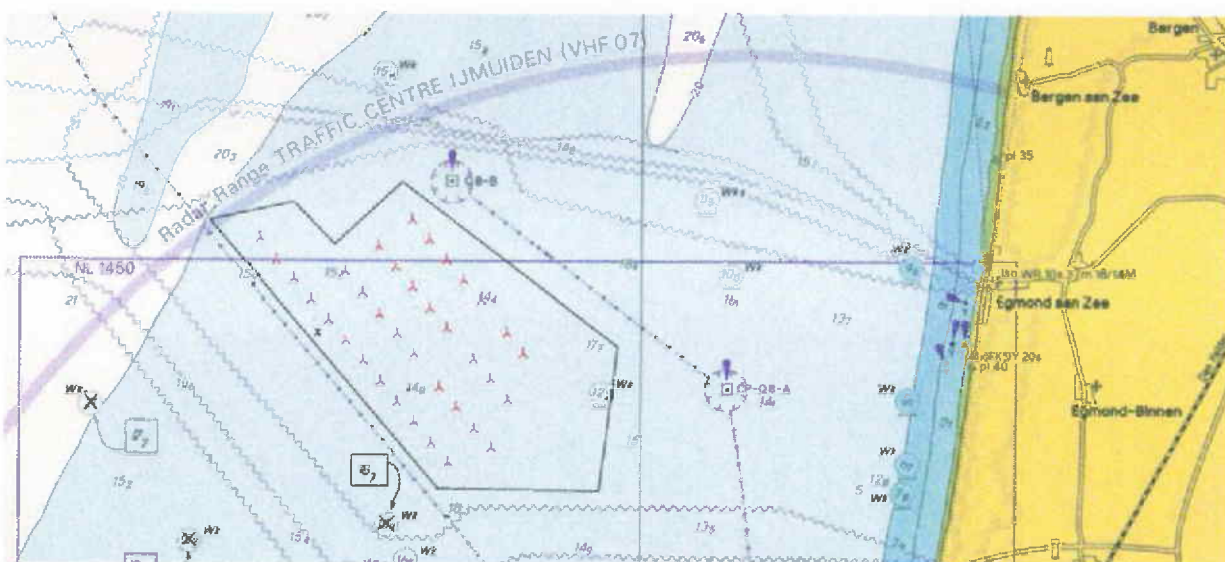
2 SITUATIESCHETS

2.1 Algemeen

Het NSW bestaat uit 36 windturbines met elk een geïnstalleerd vermogen van 2,75MW. Het totale constant geïnstalleerde vermogen van het park bedraagt 99MW. De ontwerplevensduur van het NSW bedraagt 20 jaar. Na de ontwerplevensduur zal het NSW worden ontmanteld.

2.2 Locatie NSW

In de Pkb locatiekeuze demonstratieproject NSW deel 4, is de perimeter waarbinnen het NSW dient te worden gerealiseerd vastgelegd. Met het oog op de realisatie van een demonstratieproject Near Shore Windpark (NSW) wijst het kabinet de volgende locatie aan waarbinnen het NSW gebouwd kan worden: een gebied tussen 8 kilometer (gemeten vanuit de llws-lijn) en de 20 meter dieptelijn (llws) ter hoogte van de kuststrook tussen Castricum en Egmond aan Zee, met een oppervlakte van ongeveer 40 km². De grenzen van het gebied worden bepaald door aanwezige kabels en pijpleidingen



Figuur 2-1: Locatie NSW ten opzichte van Egmond aan Zee



3 VEILIGHEIDS-, GEZONDHEIDS- EN MILIEUPLAN

3.1 Algemeen

Het Veiligheidsplan is bedoeld om inzicht te krijgen in veiligheid voor scheepvaart, (milieu en humane) risico's tengevolge van aanvaringen c.q. aandrijvingen van op drift geraakte schepen. Dit inzicht wordt in het bij deze aanvraag gevoegde InrichtingsMER geboden. Voor de opzet van de inventarisatie en conclusies wordt naar dit MER verwezen.

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

Werkzaamheden tijdens de bouw worden uitgevoerd in overeenstemming met de regelgeving in de Arbowet aangevuld met specifieke veiligheidsplannen van Ballast Nedam, NEG Micon en nader op te stellen project specifieke veiligheidsplannen.

Het Veiligheids-, Gezondheids-, en Milieuplan (VGM-plan) beschrijft het door de deelnemers te volgen management systeem voor VGM aspecten tijdens de realisatie fase en operationele fase van dit project.

Verder legt het de filosofie, beleid en doelstellingen voor het besturen van de VGM aspecten gedurende de looptijd van het hele project vast en beschrijft hoe VGM activiteiten zijn georganiseerd en hoe VGM management wordt uitgeoefend.

Het VGM-plan vormt de basis voor alle verdere te ontwikkelen VGM documentatie.

3.2 Risico-inventarisatie en evaluatie

De partijen, belast met de uitvoering, zullen voor hun specifieke activiteiten een risico-inventarisatie en evaluatie uitvoeren. Daar waar nodig zullen preventieve maatregelen genomen worden om risico's te verminderen, een en ander zal worden opgenomen in een actieplan.

3.3 Milieu

De bescherming van het milieu is een hoofdzaak. De activiteiten zullen zodanig worden uitgevoerd dat er minimale schade aan het milieu wordt toegebracht.

Gedurende de looptijd zal de locatie schoon gehouden worden en afval zal worden verzameld en verwijderd conform regelgeving.

Verder zal er aandacht geschonken worden aan de opslag en transport van gevaarlijke stoffen, die het milieu schade kunnen toebrengen. De gondel van de windturbine is zodanig ontworpen dat het volledige volume van aanwezige vloeistoffen kan worden opgevangen door de bodembak. Het is hiermee onmogelijk dat er vanuit de gondel emissies plaatsvinden naar het milieu. Vanuit het koelsysteem, gesitueerd op het gondeldak, zouden emissies naar de omgeving kunnen plaatsvinden. De toegepaste koelvloeistof bestaat daarom uit water met een milieuvriendelijk type koelvloeistof.

3.4 Organisatie van de werkzaamheden

Met betrekking tot de realisatie zullen de deelnemers een organisatieschema opstellen voor het hele project en hun eigen activiteiten met hierin opgenomen de VGM-organisatie.

Voor de start van de uitvoering en start van subactiviteiten worden startwerkvergaderingen gehouden, met als doel de aanwezigen te informeren over de op dat moment uit te voeren activiteiten, en de hierbij aanwezige risico's.

Naast de startwerkvergadering worden periodiek toolboxmeetings gehouden. Tijdens deze veiligheidsvergaderingen worden diverse (veiligheid)onderwerpen belicht die tijdens de

Veiligheids- en Calamiteitenplan - Near Shore Windpark



realisatie van het project aandacht vereisen. Zoals het dragen van Persoonlijke beschermingsmiddelen (PBM), brandbestrijdingsvoorzieningen, evacuatieplannen en andere veiligheidsprotocollen.

Verder zullen er veiligheidsaudits en werkplekinspecties uitgevoerd worden op de verschillende werkplekken tijdens de verschillende fases. De resultaten van deze audits en inspecties zullen worden besproken tijdens de toolboxmeetings.



3.5 Personeel

Het personeel heeft minimaal een opleiding basisveiligheid conform VCA genoten.

De medewerkers van de verschillende deelnemers en hun onderaannemers worden getraind in de project specifieke aspecten ook met betrekking tot VGM. Het personeel dat offshore transport, installatie en onderhoudswerkzaamheden zal verrichten, heeft een offshore training gevolgd.

Werknemers van alle partijen zijn verplicht om (bijna) ongevallen, milieu-incidenten onveilige situaties meteen te melden bij de VGM-coördinator.

3.6 Persoonlijke beschermingsmiddelen

Voor specifieke taken worden naast de standaard persoonlijk beschermingsmiddelen, additionele beschermingsmiddelen ter beschikking gesteld. De werknemers zijn verplicht deze altijd tijdens hun werkzaamheden te gebruiken.

Persoonlijke beschermingsmiddelen zullen voor gebruik door de gebruiker gecontroleerd worden op schade en werking. Niet functionerende of beschadigde PBM's zullen van de werkplek worden verwijderd en nieuwe ter beschikking worden gesteld.

3.7 Materieel

Materieel en gereedschappen worden periodiek gekeurd en geïnspecteerd volgens regelgeving en interne richtlijnen. Hierbij valt te denken aan; hijskranen, hijsmiddelen, veiligheidsmiddelen.



4 CALAMITEITENPLAN

4.1 Algemeen

Het Calamiteiten plan wordt opgesteld met als doelstelling het waarborgen en bewerkstellingen van de veiligheid van werknemers en derden bij het installeren, onderhouden en bezoeken van de windturbines. Het is gebaseerd op de ervaringen opgedaan in de offshore olie en gaswinning en andere windturbine projecten.

Het plan beschrijft de procedures en richtlijnen te gebruiken bij calamiteiten, zodat de betrokkenen voorbereid, snel en efficiënt kunnen reageren op calamiteiten tijdens installatie en onderhoudswerkzaamheden.

De inhoud van het calamiteitenplan moet gezien worden als minimum eis. Eisen van overheidswegen mogen op geen enkele wijze genegeerd worden. De eisen gelden voor iedereen die de locatie bezoekt, inclusief onderaannemers.

Daar waar onderaannemers, gerelateerd aan hun werkzaamheden strengere eisen en procedures hebben dienen ze daar aan te voldoen.

4.2 Mogelijke calamiteiten

Mogelijke calamiteiten, niet opgesomd naar belangrijkheid.

- Man overboord;
- Brand;
- (Bijna) ongeval;
- Acute ziekte; hartaanval, onwel, etc.;
- Onweersbuien;
- Schip op drift;
- Opkomend slecht weer; storm, sterke stroming, ruwe zee, mist, etc.;
- Milieu-incident;
- Materiele schade;
- Bommelding, gijzeling of sabotage.

Met betrekking tot de behandeling van mogelijke calamiteiten wordt een verantwoordelijkheidsmatrix opgesteld. In deze matrix wordt aangegeven wie te alarmeren en te informeren bij een bepaalde calamiteit.

In of bij de windturbine zijn verschillende veiligheidsmiddelen continue aanwezig, zoals brandblussers, EHBO-kist, reddingsboei en een overleveringsset met overnachtingmiddelen.

4.3 Training

Alle medewerkers van de deelnemers aan het project zullen voor aanvang van hun activiteiten onderricht worden in wat te doen bij noodgevallen en calamiteiten.

Periodiek worden oefeningen uitgevoerd en het plan geëvalueerd op actualiteit. Naar aanleiding van deze exercities worden waar nodig verbeteracties geïnitieerd en notulen opgesteld.

4.4 Personeel

Alleen personeel dat naast, opleidingen voor hun dagelijkse werkzaamheden, een gedegen offshore training heeft gevolgd wordt toegang tot de locatie verleend. De offshore training zal minimaal; brandbestrijding, redding op zee, EHBO en redding van hoogtes omvatten.



BIJLAGEN



Bijlage I: Health Safety Environment plan
Equivalent van veiligheid Gezondheid en Milieuplan



Ballast Nedam

Infra



NE·G MICON®

NZW NEAR SHORE WIND

Project Health, Safety and Environment plan.

Document number: 75.01-NSW-C- 03

Address Main contractor:

VOF Bouw Combinatie Egmond
Ringwade 1
Postbus 1530
3430 BM Nieuwegein
Netherlands

Address Client :

NoordZee Wind
p.a. Shell WindEnergy BV
Postbus 3800
1030 BN Amsterdam
Netherlands

| Revision | Date | Status |
|----------|------|--|
| A | | Concept / Draft (For internal approval only) |

| Author | Verified Project Leader | Verified Project Manager | Approved Project Director |
|------------|----------------------------|-----------------------------|------------------------------|
| Signature: | Signature: | Signature: | Signature: |
| Date: | Date: | Date: | Date: |



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DEFINITIONS

| | |
|--------------------|--|
| BCE: | VOF Bouwcombinatie Egmond |
| BN: | Ballast Nedam Infra B.V. |
| CDM: | Construction Design and Management regulation. |
| Contractor: | VOF Bouwcombinatie Egmond (BCE): <ul style="list-style-type: none">- NEG Micon Holland B.V. (NM)- Ballast Nedam Infra B.V. (BN) |
| COSHH: | Control Of Substances Harzardous to Health –regulation. |
| MSDS | Material Safety Data Sheet (Hazardous substances) |
| NM: | NEG Micon Holland B.V. |
| NSW: | Near Shore Windpark |
| Nuon: | NV Nuon Duurzame Energie |
| NZW: | NoordZeeWind |
| OE: | Owners Engineer |
| Owner & Principal: | NoordZeeWind (NZW): <ul style="list-style-type: none">- Shell WindEnergy B.V. (Shell)- NV Nuon Duurzame Energie (Nuon) |
| Shell | Shell WindEnergy B.V. |
| WPA | Work Place Assessment (Risk assessment) (Risk analyses and Evaluation) |



1. LIST OF HOLDERS

Everybody in the Project Group and the Site Organisation will have access to the Plan through the project in a registered hardcopy

All main contractors will be given printed copies and in addition relevant project staff will all have an unregistered copy.

It follows that the following are holders of printed registered copies:

| Binder no. | Holder |
|------------|-----------------------------------|
| | <u>Registered Copies:</u> |
| | QA Manager |
| | Site Manager |
| | HSE Coordinator |
| | Turbine Contractor |
| | Foundation Contractor |
| | Cable Contractor |
| | Project Manager |
| | Traffic Coordinator |
| | Diving Coordinator |
| | Ship masters / Captain |
| | <u>Registered Copies:</u> |
| | Foreman, foundations |
| | Foreman, turbines |
| | Foreman, electrical installations |
| | Foreman, O&M |
| | <u>Registered Copies:</u> |
| | Client |
| | Client |
| | |
| | |



Ballast Nedam

Infra



N-E-G MICON®

2. PARTY'S INVOLVED

The Project will be carried out by the joint venture Ballast Nedam Offshore Energy and N-E-G Micon to be named Bouw Combinatie Egmond V.O.F. (BCE).

Ballast Nedam Offshore Energy is a subsidiary of Ballast Nedam Infra and operates according to the management system of the parent company

N-E-G Micon and Ballast Nedam are both certified for quality assures in accordance with NEN-ISO 9001 2000 ore equivalent and for safety in accordance with VCA** ore equivalent.

The organization structure of the joint venture Bouw Combinatie Egmond (BCE) is as follows:

Bouw Combinatie Egmond V.O.F.

Ringwade 1
Postbus 1530
NL - 3430 BM Nieuwegein
The Netherlands
phone +31 (0)30 285 3060
fax +31 (0)30 285 4820

Representative D. Elservier van Griethuysen

Is a joint venture of

Ballast Nedam Offshore Energy

Ballast Nedam Infra
Ringwade 1
Postbus 1530, 3430 BM Nieuwegein
The Netherlands
phone +31 (0)30 285 3060
fax +31 (0)30 285 4820
web <http://www.ballast-nedam.nl>

Representative D. Elservier van Griethuysen

N-E-C. Micon A/S

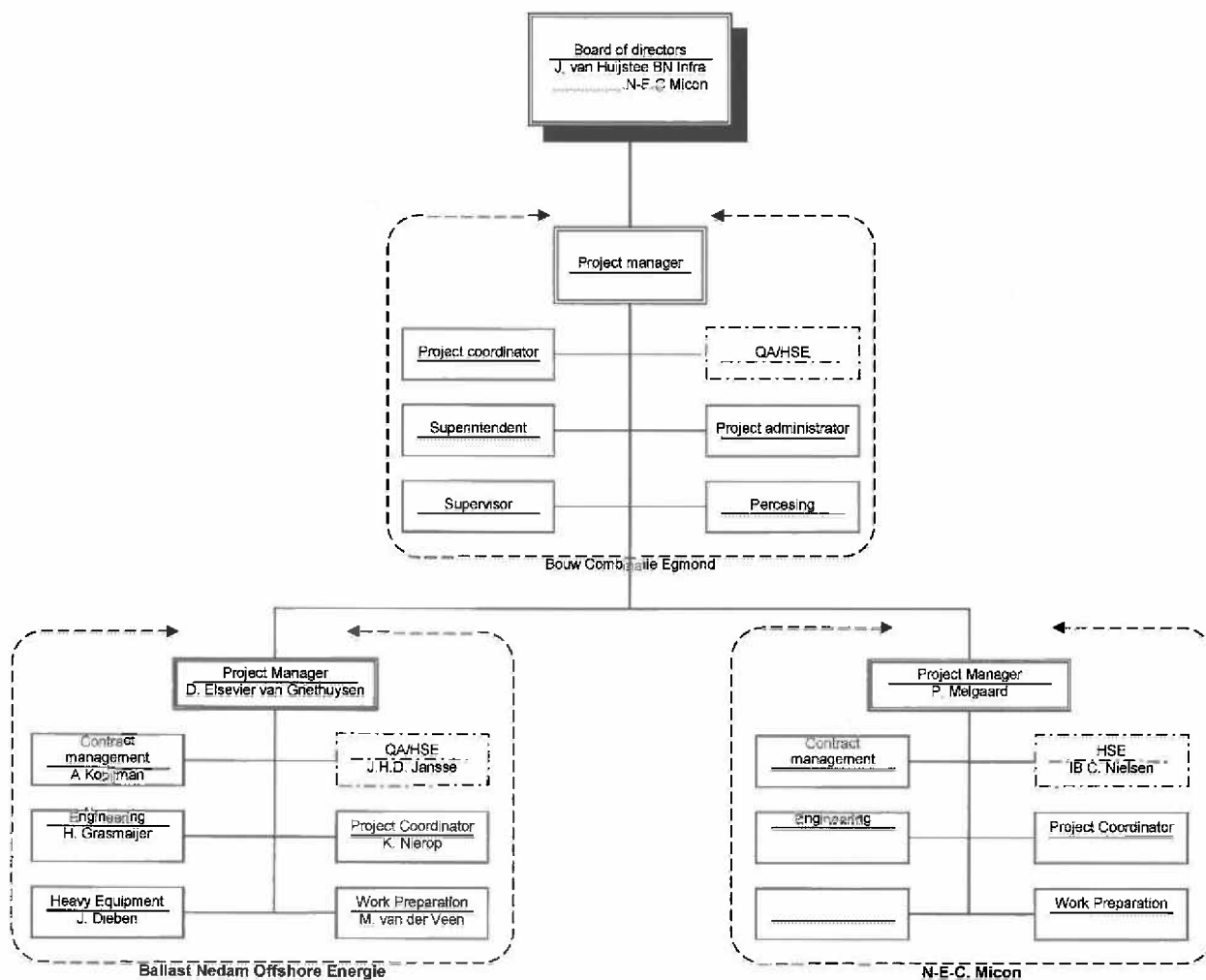
Market Division International
Alsvej 21, DK-8900 Randers
Denmark
phone +45 87105262
fax +45 87105009
web <http://www.neg-micon.com>

N-E-C. Micon Holland

Remmerden 9
Postbus 118, 3910 AC Rhenen
The Netherlands
phone +31 (0) 317650500
fax +31 (0) 317650555

Representative P. Melgaard.

The organization structure of the joint venture Bouw Combinatie Egmond (BCE) is as follows:





3. PROJECT DESCRIPTION

NoordZeeWind (NZW) is Principal, and main contractor is Bouwcombinatie Egmond (BCE), a joint venture of Ballast Nedam infra B.V. and NEG Micon Holland B.V. The main contractor will maintain an updated list with all contractors.

SHELL and NUON's have entered a joint development agreement and as a result NoordZee-Wind (NZW) is establishing an offshore farm of wind turbines with an output of 99 megawatt. A concession area has been granted Northwest of IJmuiden. The farm is named Near Shore Windpark (NSW) and the distances from shore ranges from 8,3 km./ 4,5 nautical miles (Nm) to 18,5 km./10 Nm. The nearest major port is that of IJmuiden and distance to the breakwater is 7 Nm. Amsterdam Schiphol is the nearest full scale airport.

The concession area is shaped as an irregular rhombi stretching out in Northwest Southeast direction and being 4 Nm. North-South and 5 Nm. East-West. The area is between two oil pipelines running close to the long sides. A total of 36 wind turbines are planned and the turbines will be installed on mono pile foundations secured in the seabed. The wind turbines will be erected on top of the foundations about 15 m above MSL corresponding to the top being 116 m above MSL.

At Near Shore Wind site there will be activities in relation to the erection of the foundations for the 36 turbines, the erection and mounting of the turbines and the laying of the cables between the turbines.

Bouwcombinatie Egmonds objectives of this farms is to:

- Perform all work in a manner to prevent HSE incidents
- Set standard for future offshore wind parks world wide

NZW has contracted with BCE to act as Owner's Engineer (OE).

In connection with establishing the offshore wind farm, a temporary working area has been made.

The work area at Near Shore Wind work area is declared as prohibited area in the official "Notices to Mariners". Regulations for vessel access to the work area is issued by Rijkswaterstaat (RWS) Directie Noordzee.

Any unauthorized navigation in the working area is forbidden.

The Rijkswaterstaat (RWS) Directie Noordzee has accepted the marking.

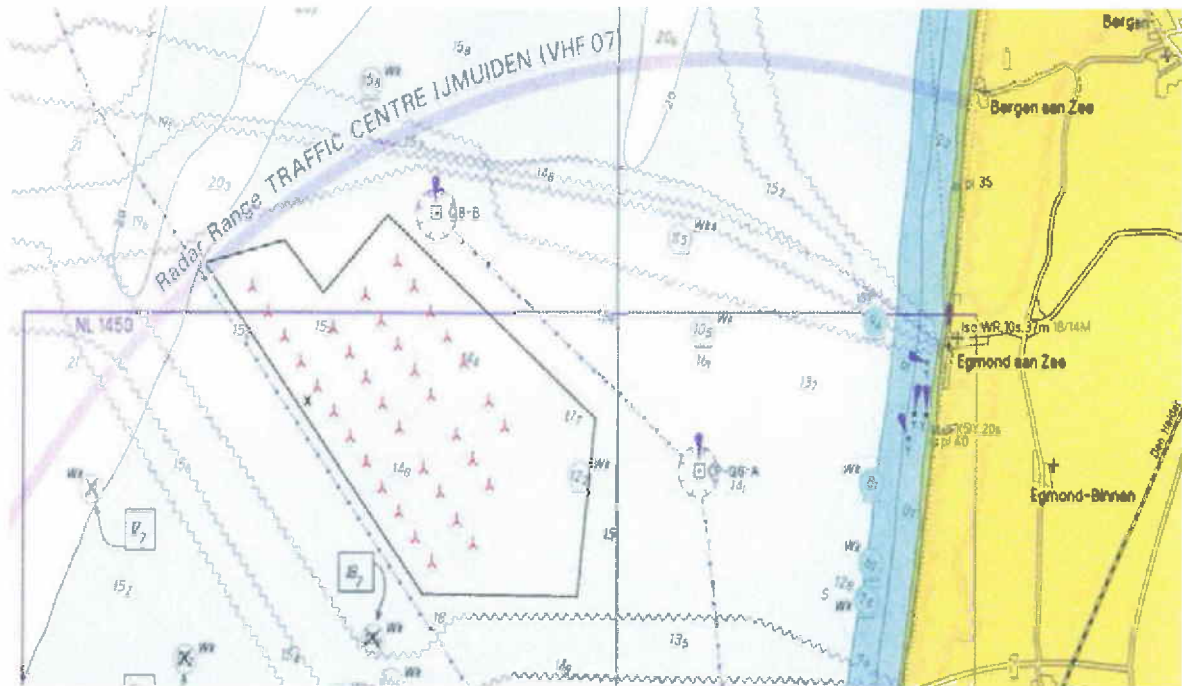


Fig.1: Map showing the location of Near Shore Windpark

| UTM31 ED50 | | |
|------------|--------|---------|
| Nr | X | Y |
| 1 | 601315 | 5829547 |
| 2 | 600900 | 5826110 |
| 3 | 597065 | 5826069 |
| 4 | 591584 | 5832310 |
| 5 | 593472 | 5832789 |
| 6 | 594485 | 5831762 |
| 7 | 596057 | 5833317 |

| WGS 84 | | |
|--------|--------|---------|
| Nr | X | Y |
| 1 | 601221 | 5829336 |
| 2 | 600807 | 5825900 |
| 3 | 596972 | 5825858 |
| 4 | 591491 | 5832099 |
| 5 | 593379 | 5832578 |
| 6 | 594392 | 5831551 |
| 7 | 595964 | 5833106 |

| WGS 84 | | |
|--------|---------------|--------------|
| Nr | NB | OL |
| 1 | 52° 36' 16.6" | 4° 29' 41.0" |
| 2 | 52° 34' 25.7" | 4° 29' 15.2" |
| 3 | 52° 34' 26.8" | 4° 25' 51.5" |
| 4 | 52° 37' 52.2" | 4° 21' 6.6" |
| 5 | 52° 38' 6.5" | 4° 22' 47.5" |
| 6 | 52° 37' 32.7" | 4° 23' 40.3" |
| 7 | 52° 38' 22.0" | 4° 25' 5.5" |

Damage observed to the marking must be reported to the Traffic Coordinator.



4. OBJECTIVES AND PHILOSOPHIES OF THE HSE PLAN

The plan has several objectives:

- Based on Dutch statutes and standard practice within the construction industry to create a healthy and safe working environment for the personnel working at the site.
- During the entire project realization to minimize the impact on the environment from the design and engineering, the production and the mounting/erection to the operation of the farm.

This will be affected based on the following philosophies:

- Detailed offshore training of all personnel targeted toward the activities they will be handling.
- Random audit of this HSE Plan (including the contractors' Work Process Assessments) to verify its implementation.
- Establishment of a safety organization representing all personnel.
- Progress reporting incl. Toolbox meetings.

The HSE Plan will only be issued in English. All instructions will be in a language understandable for the workers. This can mean that depending on the workforce that Instruction / introductions may have to be given/developed in several languages.

The HSE Plan is a natural part of the project managing Health, Safety and Environment.

The Plan relies on the CDM-regulation (Construction, Design, Management).
(EEC regulation 89/391/EØF, 24.june 1992) - (Note, Arbo §2, Article 2.27)

The fundamental idea of the culture is based on the philosophy that

All personnel shall exhibit due responsibility and care

And in this manner contribute to

A culture characterized by respect and dedication.

A project instruction booklet will be handed out to all personnel working on this project and will communicate the general and specific rules and regulations that apply to this project

- behavior towards human beings and the environment as well as health and safety measures.
- report accidents, incidents or to stop work that is not properly managed in regards to HSE.
- Actively participate in HSE programs including meeting, drills, audits, incident reporting, and incident investigation, etc.
- The use, possession, transportation, promotion or sale of illegal drugs controlled substances, drug paraphernalia, alcohol, firearms or weapons while on the construction site, whether owned or leased, is absolutely prohibited.
Use of prescription or over-the-counter (OTC) medication that may impair the ability of work safety has to be discussed with supervisor/Site Manager before work.
- Responsible for a tidy Site in respect to the Environment and the working environment



In the case of violation of the site rules, the culprit will receive a warning and then later be expelled in the case of a repetition.

5. TIME SCHEDULE FOR DEVELOPMENT AND IMPLEMENTATION

To ensure a dynamic plan it is the intention to follow the following schedule:

| 2003 | | | | 2004 | |
|---|---|---|------------------------------|------------------------------|--|
| Quarter | | | | Quarter | |
| 1 | 2 | 3 | 4 | 1 | 2 |
| Develop Table of Contents with comments | Plan to be developed | Plan to be finalised | Plan to be implemented | Plan to be audited | Plan to be regularly updated |
| Contact to the authorities | Contractors to produce WPAs | Contractors to finalise WPAs | Plan to be audited | Contractors to revise WPAs | Experience from construction phase to be included in operations manual |
| Introduction for contractors | WPAs to be studied and commented on. Returned for revision, if necessary. | Employees to be introduced to the Plan | Plan to be regularly updated | Plan to be regularly updated | |
| | | Work to commence at Noordzee | | | |
| | | Work in safety organisation to commence | | | |

Audit of the Plan

Development of the Plan and later regular daily use, administration and use of it are natural parts of the project's overall scheme.

The project organisation will be audited in 2003 as stated below:

| Subject | Date | Auditor | Auditee |
|---|---------------|---------------|---------------|
| Implementation HSE and contingency plan, Toolboxes and instructions | August 2003 | To be decided | To be decided |
| Instructions and procedures | November 2003 | To be decided | To be decided |
| Winter precautions | December 2003 | To be decided | To be decided |
| | | | |

Audits for 2004 will be planned in December 2003 and controlled in a separate list by the project

6. NOTIFICATION OF THE CONSTRUCTION ACTIVITIES

The Dutch Labor Inspection has been notified of the site as prescribed by statute. A copy of the notice can be found in the project file.



7. COMMUNICATION

All communication with the press / public will be handled by the construction manager of Bouw Combinatie Egmond aan Zee or the representative of NoordZeeWind's.

If the public contacts site personnel, they are requested to refer to the Site Manager who will take appropriate action.

When needed the Site Manager will issue information to the personnel on the site. This will be done in writing. Each contractor shall see to it that such information is made available to his personnel.

8. MEETINGS

The main contractor will organize the following safety meetings:

| Meeting | Topic | Present |
|-------------------------|--|---|
| Pre-job HSE meetings | Prior to beginning of all work in which the specific hazards pertaining to the job are discussed | All needed or involved personnel |
| Monthly safety meeting | Misses and accidents precautions and risk analysis and instructions | Sub contractors and representatives from vessels and Safety manager BCE |
| Incident investigation | Analyzing accident or incident | Involved sub contractor, Safety manager BCE |
| Toolbox (by contractor) | Actual risks | All operational personnel. |

Minutes of meeting will be kept and a registration of those present.
Presentation list of toolbox meetings will be submitted to BCE

The main contractor will organize the following Project meetings

| Meeting | Topic | Frequency | Present |
|----------------------------|---|------------|---------|
| Owners meeting | Design and construction progress | 1x 4 weeks | |
| Board of directors meeting | Progress, client, hot items, safety | 1x 4 weeks | |
| Staff meeting | Safety, progress, finance, (sub) contractors, procurement, planning | 1x 4 weeks | |
| Sub contractors meeting | Safety, progress, procurement, planning | 1x 4 weeks | |

Minutes of meeting will be kept and a registration of those present



9. TRAINING OF PERSONNEL

The Health and Safety Coordinator is to look into the need for practical training sessions relative to the offshore training and selected procedures on a regular basis.

Together with the Project Manager and the Owner's Site Representative he will launch relevant practical training.

The contractor is responsible for any legal drills offshore, Fire drills, evacuation, MOB-drills etc. according to Maritime rules and regulations. All completed drills shall be reported to the Site Management in writing.

The site personnel are to attend project-specific training, eg. Contractor shall ensure their employees are trained in appropriate HSE subjects and specific job procedures. Documentation of special training will be required (E.g. Crane certificate, fork-lift certificate, scaffolding, epoxy etc.).

Contractors will submit registration of proof of training and copy's of certificates to BCE

10. WORK PROCESS ASSESSMENT (WPA)

Contractors must submit there WPA's of there own work to BCE. BCE will incorporate the WPA's in her WPA if the construction manager deems this necessary.

WPA's are to be produced in accordance with applicable Dutch legislation and as a minimum they must specify if the work process is of a particularly dangerous nature thus requiring particular attention to safety. (Note: Article 2.2b).

The contractors must develop and maintain their WPA's on a regular basis. The WPA's will/may be discussed at safety meetings.

11. ENVIRONMENTAL IMPACT

Any unintended environmental impact arising as a result of an accident must be reported to the Site Manager A.S.A.P. who together with the contractor and/or his employee will complete a form with a description of the environmental impact concerned.

It is the responsibility of the Site Manager to contact the project manager and together see to the handling of the matter

12. SITE SAFETY

Construction sites must have a safety organization. The site manager and the health and HS coordinator are to setup the organization. (Note: Arbo §2, Article 2.26).

Before the contractors start their work there Safety Representative will contact the Safety Coordinator of BCE.

It is the contractor's responsibility to appoint one or more safety representatives on the site and that he is in touch with the safety organization of the main part of the site.

The contractor is to allow his employees sufficient resources for active participation in the health and safety work of the site. Furthermore, the employees are to be instructed to exhibit respectful and environmentally conscious behavior.



13. SITE SAFETY INSPECTIONS

BCE management and safety will plan and conduct four weekly safety inspections on the construction site, Wind Park and construction office site. Of these inspections reports will be issued to the construction manager. The safety inspection plan will be kept in the project file by the safety coordinator of the project

Each (sub) Contractor will plan, and conduct a four weekly safety inspection of their work area and to keep written records of these inspections. They will submit a copy of the inspection plan, reports and register to BCE in there monthly report

14. MONTHLY REPORTING

BCE safety will issue a monthly safety report to the construction manager of BCE with the results of site safety inspections of all party's involved. These reports will at least summaries:

- Near misses, incidents and accidents
- Result safety inspections
- Status of safety documents
- Results of toolbox meetings
- Results of introductions
- Result of safety audits
- Worked hours
- IF according to VCA**

Each (sub) contractor will issue a monthly report to the construction manager of BCE at the first working day of each month with

- Near misses, incidents and accidents
- Result safety inspections
- Status of safety documents
- Results of toolbox meetings
- Results of introductions
- Result of safety audits
- Worked hours
- IF according to VCA**



15. SAFETY DOCUMENTS

BCE and her sub contractors will write the following safety documents:

| Document | Topic | By | Status | Remark |
|---------------------------------------|--|---|--------------------|--|
| Risk assessment Design faze | Project risk | Designers Ballast Nedam and NEG Micon | ? | BCE to join the two documents to one |
| Risk assessment Construction faze | Construction risk | BCE | ? | |
| Contingency plan | How en what in a emergency | BCE | Draft | To be approved by independent body |
| Health, Safety and environmental plan | General Health and safety structure of BCE and related documents and procedures | BCE | Draft | |
| WPA's | Critical safety risks | BCE and per work plan by (sub) contractor | | BCE WPA to be approved by independent body |
| Procedures | General instruction how to handle specific items | BCE and (sub) contractors | See list this plan | |
| Work plan | Work breakdown of a specific job. Stating: men, materials, equipment, risk and precautions and checklist | (Sub) contractor | See list this plan | To be approved by BCE |
| | | | | |



16. PROCEDURES / INSTRUCTIONS

The following project procedures and instructions will be written out according to the standards of the company doing the job. It is the responsibility of BCE to check and approve these procedures.

These procedures will be developed along the same lines and added to the Plan as separate appendices for speedy retrieval in the HSE binder – if need be.

| Procedure / Instruction | By | Remarks |
|---|----|--|
| Personal Protective Equipment | | |
| Protection against Falling Materials and Equipment in Areas with Person Traffic | | The contractors are to set up and maintain procedures as well as physical means of protection, to prevent materials and equipment from falling down in areas with person traffic |
| Technical Installations | | The contractors are responsible for describing the technical installations within the area of the site allocated to them, and ensuring that they are established and used pursuant to Dutch legislation. |
| Technical Ancillary Equipment | | Where it is necessary to use technical ancillary equipment, the contractor is responsible for describing their use, the measures to take and the training necessary for correct operation of the equipment |
| Precautions against Adverse Weather | | <p>The contractor is to describe the weather conditions for which work may not/cannot be realized.</p> <p>Every single contractor must clear the snow etc. from his own area(s). Furthermore, the contractors have the responsibility to ensure that emergency exits are not obstructed and can be used at any time.</p> |
| Maintenance of the Site | | |
| Access to Offshore Work Sites | | |
| Pre-job HSE meetings | | |
| Vessel wreck/collision | | |
| Impact on outer environment | | |
| Sudden illness | | |
| Violation/sabotage of safety precautions | | |
| Man-over-board | | |
| Evacuation from turbine | | |
| Alarm | | |
| | | |



17. WORK PLANS

For work processes that are regarded as being particularly critical, Work plans (including a W-PA) will submitted to BCE by the contractor be set up to prevent accidents.

BCE or her sub contractor will write the following Work plans:

| Workplan | By | Remarks |
|-----------------------------------|----|---------|
| Erection of Foundations | | |
| Erection/Mounting of the Turbines | | |
| Mounting of the Cables | | |
| | | |

18. REGISTERS

BCE will keep the following registers or receive regular up dates of registers from her sub contractors

| Register | By | Remarks |
|--|-----------------------------|---------|
| Near Misses / Incidents and accidents | BCE and all sub contractors | |
| Safety reprimands | BCE | |
| Personnel protection equipment | BCE and all sub contractors | |
| Certificates of safety related equipment | BCE and all sub contractors | |
| Introduction personnel to job site | BCE and all sub contractors | |
| Toolbox meeting | Sub contractors | |
| Safety inspections and results | BCE and all sub contractors | |
| IF register according to VCA ** | BCE and all sub contractors | |
| | | |
| | | |



Bijlage II: **Contingencyplan**
 Equivalent met calamiteitenplan



Ballast Nedam

Infra



NEAR SHORE WINDPARK Contingency Plan

Document number: 75.01-NSW-C- 03

Address Main contractor:

VOF Bouw Combinatie Egmond
Ringwade 1
Postbus 1530
3430 BM Nieuwegein
Netherlands

Address Client:

NoordZee Wind
p.a. Shell WindEnergy BV
Postbus 3800
1030 BN Amsterdam
Netherlands

| Revision | Date | Status | |
|----------|------------|-----------------|--|
| D | 06-06-2003 | Concept / Draft | |

| Author | Verified Project Leader | Verified Project Manager | Approved Project Director |
|------------|----------------------------|-----------------------------|------------------------------|
| Signature: | Signature: | Signature: | Signature: |
| Date: | Date: | Date: | Date: |



| | |
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**DISTRIBUTION**

This document will be distributed to all contractors, sub contractors and authorities as deemed necessary by the construction manager. A distribution list will be kept up to date by Bouw Combinatie Egmond

USEFUL ADDRESSES

MRCC XXXXX

Hospital XXXXX

DOCTOR XXXXX

AIRPORT AMSTERDAM SCHIPHOL

Amendments

| Amendment No. | Date | Amendment | Name/Initials |
|---------------|------|-----------|---------------|
|---------------|------|-----------|---------------|

**DEFINITIONS**

| | |
|--------------------|--|
| BCE: | VOF Bouwcombinatie Egmond |
| BN: | Ballast Nedam Infra B.V. |
| Contractor: | VOF Bouwcombinatie Egmond (BCE): NEG Micon Holland B.V. (NM) Ballast Nedam Infra B.V. (BN) |
| EMERGENCY | Unplanned incident, which can develop into hazards to human lives, damage to the environment, damage to equipment and installations unless, dealt with prompt and efficient. |
| EOD | Explosive Opruimings Dienst (Bomb Squad) |
| ERC | Emergency Response Committee |
| Lat./Long. | Latitude and longitude. |
| HSE plan | Safety Health and Environment Plan. |
| MHWN | Mean high water neap. |
| MHWS | Mean high water spring. |
| MLWN | Mean low water neap. |
| MLWS | Mean low water spring. |
| MOB Boat | Man Over Board Boat. A vessel equipped, manned and approved to rescue persons fallen into the sea either from vessels or from installations. |
| MRCC | Maritime Rescue Coordination Centre. |
| MSL | Mean sea level. |
| NAVWARN | Navigational Warning. |
| Nm | A nautical mile (2000 yards) is 1852 metres and equals 0,539 kilometres. |
| NM: | NEG Micon Holland B.V. |
| NOTAM | Notice to Airmen. |
| NSW: | Near Shore Wind park |
| NTM | Notice to Mariners. |
| Nuon: | NV Nuon Duurzame Energie |



| | |
|------------|---|
| NZW: | NoordzeeWind |
| PAX | Passenger |
| POB | Persons on Board. A list of all persons on board vehicles and installations within the offshore work site. The list must be precise all the time and instantly available on request by management or authorities. |
| Principal: | NoordzeeWind (NZW); Shell Wind Energy B.V. (Shell) NV Nuon Duurzame Energie (Nuon) |
| RCMS | Radio Controlled Monitoring System. |
| RSC | Rescue Sub Centre. |
| RWS | Rijkswaterstaat (RWS) Directie Noordzee. |
| SAR | Search and Rescue. |
| SBV | Stand by Vessel. A vessel positioned within the working area with the purpose of rendering assistance to the personnel working offshore. |
| Shell | Shell WindEnergy B.V. |
| UTM | Universal Transverse Mercator. |
| WPA | Work Place Assessment |



1. INTRODUCTION

1.1 Objective and Scope

The objective of the plan is to identify, analyse, and register probable emergencies or disasters.

To establish most probable cores of actions in the event of a disaster

To ensure that all personnel and authorities are informed and lines of communication are secured.

- The emergency plan has been prepared with the purpose of ensuring the greatest possible safety for the people present in the area marked (the work area) at "NEAR SHORE". The plan is founded on experiences from health and safety works in the offshore oil and gas industry and from other offshore wind turbine.
- The emergency shall be implemented in the whole project, and the responsibility for the plan shall lie with the site manager.
- The plan details procedures and guidelines for dealing with possible emergency situations to enable the people involved to react quickly and effectively in any such situation that may arise in connection with activities at NEAR SHORE construction site.
- The contents of the emergency plan are to be considered minimum requirements, which under no circumstances may replace or diminish requirements from the authorities. Everyone present must meet the requirements at the NEAR SHORE wind park, including anyone visiting the site. In the event that the building contractor may implement more stringent requirements and procedures, these are to be followed.
- The contingency plan covers installation of wind turbine foundations and related work, laying of sea cables, raising of wind turbines and related installation work.

| UTM31 ED50 | | |
|------------|--------|---------|
| Nr | X | Y |
| 1 | 601315 | 5829547 |
| 2 | 600900 | 5826110 |
| 3 | 597065 | 5826069 |
| 4 | 591584 | 5832310 |
| 5 | 593472 | 5832789 |
| 6 | 594485 | 5831762 |
| 7 | 596057 | 5833317 |

| WGS 84 | | |
|--------|--------|---------|
| Nr | X | Y |
| 1 | 601221 | 5829336 |
| 2 | 600807 | 5825900 |
| 3 | 596972 | 5825858 |
| 4 | 591491 | 5832099 |
| 5 | 593379 | 5832578 |
| 6 | 594392 | 5831551 |
| 7 | 595964 | 5833106 |

| WGS 84 | | |
|--------|---------------|--------------|
| Nr | NB | OL |
| 1 | 52° 36' 16.6" | 4° 29' 41.0" |
| 2 | 52° 34' 25.7" | 4° 29' 15.2" |
| 3 | 52° 34' 26.8" | 4° 25' 51.5" |
| 4 | 52° 37' 52.2" | 4° 21' 6.6" |
| 5 | 52° 38' 6.5" | 4° 22' 47.5" |
| 6 | 52° 37' 32.7" | 4° 23' 40.3" |
| 7 | 52° 38' 22.0" | 4° 25' 5.5" |

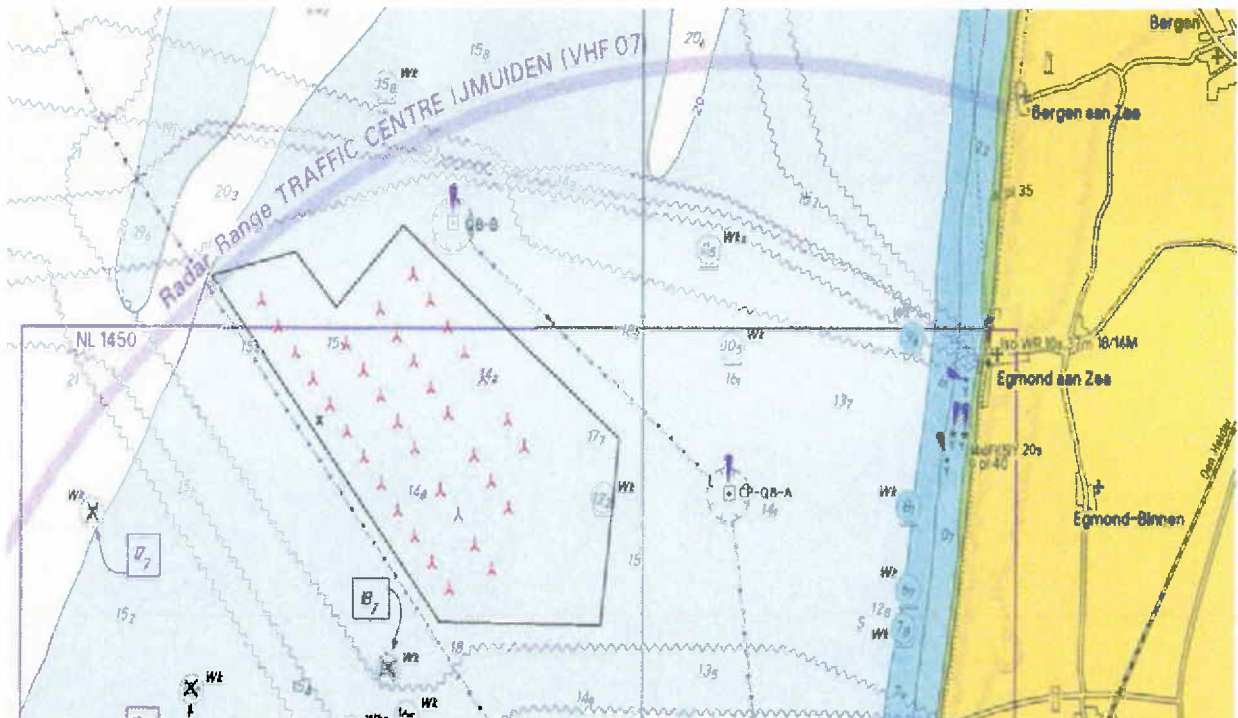


Fig.1: Map showing the location of Near Shore Windpark

1.2 Contractors and Design

NoordzeeWind (NZW) is Principal, and main contractor is Bouwcombinatie Egmond (BCE), a joint venture of Ballast Nedam infra B.V. and NEG Micon Holland B.V. An updated list of all subcontractors will be maintained by the main contractor.

SHELL and NUON's have entered a joint development agreement and as a result NoordzeeWind (NZW) is establishing an offshore farm of wind turbines with an output of 99 megawatt. A concession area has been granted Northwest of IJmuiden. The farm is named Near Shore Windpark (NSW) and the distances from shore ranges from 8,3 km./ 4,5 nautical miles (Nm) to 18,5 km./10 Nm. The nearest major port is that of IJmuiden and distance to the breakwater is 7 Nm. Amsterdam Schiphol is the nearest full scale airport.

The concession area is shaped as an irregular rhombi stretching out in North-west Southeast direction and being 4 Nm. North-South and 5 Nm. East-West. The area is located between two oil pipelines running close to the long sides. A total of 36 wind turbines are planned and the turbines will be installed on mono pile foundations secured in the seabed. The wind turbines will be erected on top of the foundations about 15 m above MSL corresponding to the top being 116 m above MSL.

**1.3 Environmental Conditions**

The Near Shore Windpark is established in an area where environmental conditions at sea is influential and often changing. Interaction between wind, waves and tidal current must be expected and is often not predictable.

The dominant wind direction is from W - SW. The annual average wind speed is approximately 10 m/s. Extreme wind speed may reach about 28 m/s.

The sea is influenced by tide, waves and sea current. The difference in tidal levels in the area of the wind park amounts to about 1,4 m at spring time and – 1,0 m at neap time.

The waves may reach heights of more than 6 m and the sea current is normally up to app. 1,5 knots. The tidal current changes approximately every 6 hours and is strongest from one to two hours after high water where it normally can be 1 to 2 knots in direction 10°- 190°.

1.4 Wind Farm Safety**Safety Inspections and Audits**

To identify risks, possible emergencies and accidents in order to take preventive action the Site Manager or his deputy shall perform weekly safety audits/inspections. All work sites are to be inspected and the work site evaluations and risk assessments checked.

The purpose is to demonstrate commitment of the management to safety, and motivate the personnel to work safely.

The management will conduct a minimum of 2 safety inspections per year per function. This will be registered in the safety calendar. (See HSE plan)

General regulations

Safety helmets, safety boots and appropriate work clothes must be worn at all times. While on the turbines, personnel must always work in groups of at least two.

For work outside the towers with open railings, personnel must always wear survival suits / floating suit and life vests. This also applies if there is a risk of falling overboard on account of the activities underway or the prevalent weather.

When handling goods or working outside the towers with open railings, personnel must always wear lifelines to prevent them from falling into the water.

On the wind turbines or the offshore substation there shall always be at least two persons together. Each work team shall bring portable, watertight, maritime VHF radio and a mobile telephone. At least one on each work team shall hold a valid VHF radio certificate issued by the proper authority.

Fire fighting equipment, life buoy and first aid equipment including equipment for treating of persons suffering from hypothermia will be available in each wind turbine.

Communication

Every team must bring communication equipment (GSM mobile phones) and a land mobile VHF radio or similar for communicating with both people on other turbines and



vessels in the area.

Medical advice

Medical advice and guidance is available from a medical doctor on call. This doctor is available 24 hours a day if there is work being done on the turbines.

Emergency Box

Content of emergency box for first aid treatment, medical treatment and food, water, sleeping bag etc. for survival in case that evacuation cannot take place :

| Number | Item | Remarks | Check |
|--------|--|--|-------|
| 1 | 1 Emergency radio | | |
| 2 | 2 sleeping bags | water resistant | |
| 3 | Large first aid box | | |
| 4 | 1 fire extinguisher | | |
| 5 | 4 liters drinking water | | |
| 6 | Field rations for 2 day | survival for 2 people | |
| 7 | 1 small gas stove | | |
| 8 | 2 spare gas bottles | | |
| 9 | 1 pot / pan (coking) | | |
| 10 | 4 blankets | | |
| 11 | 2 spare overalls (dry clothes) | | |
| 12 | 2 rain suits | | |
| 13 | 2 life vests | | |
| 14 | 2 boxes water proof matches / 2 lighters | | |
| 15 | 1 roll toilet paper | | |
| 16 | Stretcher (with hoisting facilities) | lowering by rope, crane or helicopter | |
| 17 | 1 flashlight and spare battery's | | |
| 18 | 1 pack signal flares / rockets | | |
| 19 | Instructions on use of equipment and precautions to be taken in case of Emergency. | hypothermia, fire fighting, treatment on injuries etc. | |

Emergency box shall be watertight and float / self-buoyant.

1.5 Contractor Safety

Contractors are to carry out their tasks safely and in accordance with rules and regulations and other requirements of the authorities and NZW's requirements for work and safety. The main contractors health and safety documentation shall be reviewed and approved by appropriate authority before off shore work is commenced.

Contractors' rigs, vehicles, barges etc. shall be approved by appropriate authority based on a safety inspection/audit before they are allowed to enter the working area/wind Park.

Further contractors shall describe and demonstrate how they will ensure that their sub-contractors will do their jobs in accordance with the requirements outlined above.



1.6 Search and Rescue

MRCC IJmuiden is responsible for search and rescue at sea in the area.

Procedure to be filled in later.

2. ACCESS TO OFFSHORE WORK SITES

2.1 General

The work area at Near Shore Wind Park is declared as prohibited area in the official "Notices to Mariners". Regulations for vessel access to the work area is issued by Rijkswaterstaat (RWS) Directie Noordzee.

Unauthorised vessels or pleasure crafts entering the area shall be approached by the Stand By Vessel and refused admission. In severe cases the intruder may be reported to the police and other proper authorities.

Appropriate Dutch authorities are to be kept informed about the main activities in the area such as diving, cable laying and heavy lifts.

2.2 Personnel

No one is permitted to access the work area without a valid ID card issued by VOF Bouw Combinatie Egmond.

To obtain this admission card all offshore personnel shall have completed prescribed offshore course(s) comprising basic fire fighting, first aid treatments, and evacuation from the nacelle and sea survival.

2.3 Visitors

In exceptional circumstances, the Site Manager may grant dispensations from this rule on condition that the person in question remains in the company of a person with an ID card at all times. The visitor is to receive information about the safety procedures and this contingency plan. Groups of visitors are not to exceed a suitable size.

2.4 POB Lists

A system has been set up for the registration of persons on board (POB) with regard to vessels, turbines and foundations. The system ensures that the Site is constantly aware of the location of every single person involved in the offshore project. The POB system also contains information about the next of kin (NOK) of each person. The system is described in details in the HSE Plan.

A list of names is to be placed at the Site Managers office. The list shall indicate where to each person will be transported.

When a person is moved from one location to another the boatman shall report this instantly to the Site Manager who keeps the list updated.

Returning onshore again each individual shall report to the Site Manager who shall update the POB list accordingly.

It is extremely important that the POB system is kept updated at all times, so the Site Manager has the necessary POB information in case of an emergency situation.



2.5 Boat Transfer

All transportation to and from offshore work sites will take place using boats approved by the main contractor and appropriate Dutch maritime authorities. Boats are to be equipped enabling man over board and rescue operations. The boatmen shall all have completed appropriate offshore courses.

Embarkation and debarkation at the base harbour must be performed via a secure, safe and suitable pier or gangway that shall be positioned in such a way that the risk of stumbling and falling over board is minimised.

Every Vessel sailing to the construction site must keep a log book. All people sailing offshore must sign this book at Embarkation and debarkation. It's the responsibility of the captain that this log is kept update.

The captain of the vessel is to ensure that the passengers receive the necessary safety instructions. During the voyage, all instructions and recommendations from the captain must be observed and followed.

The captain must continuously monitor developments in the weather. If bad weather should arise, he shall inform the people on the turbines and on the site so that the turbines can be evacuated in good time if necessary.

The captain has sole responsibility for determining whether a vessel operation can be performed safely or not.

**IF AN OPERATION CANNOT BE PERFORMED SAFELY,
IT MUST NOT BE PERFORMED AT ALL.**

2.6 Boarding Offshore Installations

Access to the turbines will be by use of small crafts, Rubber dinghy (Zodiacs) or by means with crane and basket. Personnel baskets should only be used in exceptional circumstances, i.e. emergencies or when transfer is essential and it is not practicable to get access by less hazardous means (See Guideline / HSE-plan).

Cranes used for personnel transfer has to be equipped with an "Anti-two-blocking" device. The lifting procedure shall be reviewed and approved by the HSE-Manager and the Site Manager prior to any lift.

Survival suits/floating suit and life vests must always be worn when entering and leaving the turbines.

The Captain has to give his approval to enter the turbine. At all times there must be visual contact between the vessels Captain and the Boats man.

**3. EMERGENCIES****3.1 General**

If during the duration of the project an emergency takes place it shall be classified according to the table listed below:

| Category I | Category II | Category III |
|----------------------------|---------------------|------------------------|
| Diver's paralysis | Fire / Explosion | Environmental accident |
| Collision – aircraft | Sabotage | Vandalism |
| Acute illness | Industrial accident | Threat |
| Man over board | Collision – vessel | Drifting vessel |
| Thunder / lightning strike | | Bad weather |

Category I incidents require a faster response than Category II incidents, and so on.

Appendix 1 - alarm checklist

Appendix 3 - contacts

The following numbers can be used in emergency situations:

| | |
|--|---|
| Diver's paralysis Man over board Fire / Explosion Collision – vessel Environmental accident Drifting vessel | ALARM to MRCC ☎ : XXXXXXXX INFORMATION to Site ☎ : XXXXXXXX |
| All other incidents | ALARM to Emergency Services Switchboard ☎ : 112 INFORMATION to Site ☎ : XXXXXXXX |

Contact the people listed below for information and, if necessary, take additional action in accordance with the indications opposite the emergency situations in question.



3.3 Man Over Board

If a person falls in the water while boarding or disembarking a vessel in a harbour, the observer must inform the captain of the vessel and start procedures to rescue the person in question using the means at hand (lifebuoy, lifebelt, boathook, rope ladder etc.).

If a person falls over board during a voyage between the harbour and the wind farm, the captain of the vessel must be alerted immediately by the cry of **"MAN OVER BOARD"**. At the same time, a lifebelt or other floating aids must be thrown to the person in the water. The observer must constantly watch the person in the water and point towards this person to direct the captain in the right direction.

The horn on the boat/Vessel must be activated to attract the attention of other Vessels. Warning to ships in the area may be given by VHF is necessary.

Pending on the situation MRCC will be alarmed for external assistance. The captain must then communicate the MOB alarm to MRCC and inform Site Manager. The rescue operation must be carried out in accordance with the internal procedures of the vessel.

Once the person who fell overboard has been rescued and is back on the vessel, a crewmember or passenger must administer first aid. The captain must then sail to the mainland so that the person can be taken to hospital for additional examinations. The Site Manager must be informed as soon as the rescue operation has been completed.

If a person falls into the water from one of the offshore substation or the measurement mast, the other personnel must alert any vessels in the area, and must also contact MRCC, which will then initiate a SAR operation according to the applicable procedures. Throw out the life buoy and assist the victim without putting oneself into risk.

If the person who has been rescued is suffering from exposure, refer to the guidelines for treating people with hypothermia. See 3.4.

When the wind farm installations are manned a stand by vessel shall be available in the area to provide man overboard and evacuation readiness within 10 minutes.

3.4 Hypothermia

Persons who have suffered from over exposure to cold weather or water often suffer from hypothermia. In such case action shall be taken according to procedure regarding treatment of persons suffering from hypothermia.

- Lift the victim out of the water in horizontal position if possible.
- Avoid unnecessary movement of the rescued person.
- If the victim is not breathing, give artificial respiration – NOT cardiac massage.
- Remove the wet close and wrap the rescued person into blankets
- Place the rescued in a not heated room,
- Evacuate immediately for hospital treatment onshore.



3.5 Fire

The priorities in the event of fire are STEM:

- Save people
- Trigger alarms
- Extinguish the fire
- Minimise damage

Vessel:

In the event of a fire on board a vessel, the captain must alert MRCC and other vessels (if any) and then attempt to extinguish the fire in accordance with the internal procedures of the vessel. All passengers must follow the instructions issued by the captain.

The fire fighting on vessel / Rig / barge shall be done according to internal procedure onboard.

Turbine / substation:

In the event of fire in one of the turbines, offshore substation or the measurement mast the stand by vessel to be alerted immediately. Work to fight the fire must be started with the extinguishers at hand. The fire must be extinguished if possible, but the applicable maxim is: "people before property".

Warning: During fire toxic gas emissions can be developed.

Activate the emergency stop and disconnect the main switch if possible. If personnel shall to be lowered down during a fire, pay attention to the risk of debris falling from the turbine and stand in a safe place until evacuation.

If possible try to remove/eliminate flammable materials/liquids.

If the fire cannot be extinguished the installation shall be abandoned.

3.6 Acute Illness

If acute illness occur the stand by vessel is to be called for evacuation of the patient. If evacuation cannot be carried out safely by the stand by vessel the boatman is to request MRCC assistance.

Medical advice can be obtained from MRCC via maritime VHF or telephone.

The Site Manager to arrange further medical treatment by a medical doctor or at the hospital if required.

For illness reporting reference is made to the HSE-plan and the alert plan in part 5 of this plan. The Site Manager must be informed about all evacuations due to illness, and an illness report must be completed.



3.7 Evacuation

Industrial accident

If a person suffers a serious industrial accident, notify the Emergency Services Switchboard (tel. 112) to initiate evacuation procedures to transfer the injured person to shore for treatment. If this cannot be performed safely, MRCC must be contacted for assistance.

The guidelines for dealing with accidents are detailed in Appendix 1. Coordination from the Site office, or other available resources (vessels, construction workers, etc.). This depending on the evaluation carried out by MRCC.

The Site Manager must be informed of all accidents that result in injury. He must then identify and remove the cause(s) of the accident and report to the authorities in accordance with the HSE-plan.

Casualties/victims has to be evacuated to hospital for examination and health check.

Turbines:

Normally, personnel can evacuate the turbines by climbing down the ladder from the turbine platform to a Vessel docked to the turbine with its bow pressed up against the ladder.

All turbine fitters have received training in saving themselves and injured or sick colleagues from any place in the turbines by using the special altitude rescue equipment located in the turbines. NEG Micons evacuation procedure has to be followed.

If a person is to be evacuated by helicopter from one of the wind turbine nacelles, from the offshore substation or the measurement mast because of injury or illness, the rescue and evacuation equipment of the wind turbine or the offshore substation is to be used. Detailed instructions can be found with the equipment.

In all evacuation situations via the air the directions of the helicopter crew is to be followed strictly.

Offshore substation:

Evacuation from the substation can take place by helicopter, by MOB boat, by life rafts, or via a ladder to the water. Design of escape routes and procedures shall be prepared in co-operation with designer of sub station.

Evacuation from vessels, rigs, barges, etc.

The evacuation of injured or sick personnel from vessels, rigs and barges is initiated via MRCC in accordance with the normal procedures of the vessel.

Evacuation by rescue helicopter is performed according to MRCC's normal procedures.

Site Manager is to be informed of all evacuations.

**3.8 Diving Emergencies**

Diver's paralysis (divers)

Specialists are to handle diving incidents. The diving contractor shall submit a contingency plan providing detailed emergency procedures for diving operations.

3.9 Explosives and Ammunition

Are explosives, bombs or ammunition found during the construction phase the location is to be marked and the Police alerted immediately. The EOD will take care of demolition.

3.10 Drifting Vessels/Objects

There is a risk that vessels in the area may drift on account of engine failure, steering defects or loss of power. Barges and vessels being tugged may begin to drift if the tugging cables break. Both situations constitute a collision risk as regards diving operations and heavy lifting with specialist vessels – in that there is a risk of collision with the turbines, substation and/or other vessels.

It is very likely that MRCC will be notified of situations involving drifting vessels, etc. and will be able to send warnings out to shipping traffic on channel 16. Vessels and Traffic coordinator must therefore monitor such incidents closely and instigate evacuation of the turbines if the situation demands such action. MRCC must be informed if drifting vessels, etc. are observed in the vicinity of the wind farm.

If MRCC gets information about drifting objects in the area they are to inform the Site Manager. The Site Manager then informs and takes the necessary precaution to protect the personnel and the installations. If a vessel engaged in work at the wind farm gets information about drifting objects it shall inform the Site Manager. The Site Manager reports to the MRCC and takes further action in co-operation with MRCC.

Collision with wessel, rig, mono pile, turbine, substation.

Contact MRCC in the event of a collision with a vessel or between two vessels. Everyone in the area is obliged to help to find casualties and/or fatalities, which are all to be transported to nearest Harbour. See 3.2.

In case of collision oil spill may occur. Handling is to take place immediately as well as reporting. See 3.10

3.11 Environmental**Accidents:**

The risks of environmental accidents are considered low. Oil spills may occur in case of equipment failure, such as broken hydraulic hoses, Oil filling/exchange etc. Should this situation happen the spill is to be stopped/minimized immediately and the incident reported in accordance with appropriate Dutch procedures for environmental protection.

Discharge of non-water miscible flammable liquids, can lead to a concern, due to the fact that they can form a top layer. These could in worst case ignite considerable distances from the turbine or vessel after "discharge".



Equipment to be used:

- Floating barrage, See HSE-plan
- Absorbent material
- Sandbags
- Rags, buckets
- Drip tray
- Vacuum cleaner, suitable for absorption of liquids, Personal Protective Equipment (PPE) E.g. gloves, eye protection, breathing respirator

Handling and reporting shall take place immediately.

- Spill involving hazardous materials shall be contained to prevent spread of the material to other areas/environment. This may involve use of temporary diking, sandbags, dry sand, absorbent pads/material.
- Treated material shall be absorbed into inert carrier material to allow the material to be cleared up and removed to a safe place for disposal or further treatment as appropriate.

Oil-containing material shall be stored in a proper way, and brought to shore for further handling. All resources in the area is in duty to help in case of an environmental accident/leakage.

In case of environmental accident RWS Directie Noordzee and Kustwacht shall be informed.

Waste:

All waste/elements has to be collected and brought to shore. Observation of large floating objects, or anything that could be dangerous for Vessels, Rigs, and environment shall be reported to Site Manager and collected As Soon As Possible (ASAP). It is not allowed to accumulate waste. Waste removal procedure shall be adopted.

3.12 Major Material Damage

Major material accidents, which do not endanger people, must be brought under control as soon as possible, and steps must be taken to ensure that the damage cannot develop so as to pose a threat to human life and well-being. The Site Manager is to inform the Emergency Response Committee.

If the situation deteriorated causing threats to the personnel steps to secure the personnel's health and safety have the highest priority. The Site Manager is to call the Emergency Response Committee.

3.13 Bomb Threats, Sabotage, Vandalism, Hostage-Taken etc.

Should the project be subject to any kind of terror directions for initial handling of the most common problems are given below. It is extremely important to take notes.

Bomb Threats

In the event of bomb threats or hostage situations, the Emergency Services Switchboard (tel. 112) must be alerted without delay.



The guidelines for dealing with bomb threats are detailed in Appendix 2.

If a bomb threat is developing the following guidelines and checklist shall be followed:

- Be calm and obedient.
- Do not interrupt the person who is calling.
- Keep the conversation going by asking questions.
- Repeat the bomb threat – if possible word by word.
- Take notes.

Sabotage

In the event of sabotage, contact the Emergency Services Switchboard (tel112).

Vandalism

Vandalism to turbines, vessels and equipment must be reported to the police (for registration) and the insurance company.

3.14 Extreme Weather Conditions

Ship captains and Site Manager must continuously monitor weather conditions. If the captain evaluates that it is not safe to land or disembark personnel from a vessel or a turbine, such operations must not be performed.

During extreme weather conditions such as strong wind, heavy sea, extreme tidal phenomena's with high sea state, strong sea current, fog etc – it may be necessary to postpone the evacuation of personnel from the turbines - so safe evacuation is not possible, persons at the wind farm are to stay in Sheltered areas i.e. in the bottom of the tower of a wind turbine. The site Manager is to be contacted and his instructions followed.

3.15 Thunder and Lightning

If evacuation cannot take place in due time everybody on board are to act in accordance with this instruction in appendix 7.

3.16 Evacuation to Shore

Ijmuiden Port is point of the daily boat transportation to/from NEAR SHORE wind farm and the destination for routine evacuations.

Injured and ill persons are to be evacuated from the wind farm by Vessel for medical treatment. They can be picked up by ambulance in the following harbours (See attached chart):

Ijmuiden Port

Distance approx. 8 – 12 Nm and sailing time to the breakwater 25 - 35 minutes at 20 knots.

***Chart Showing the Harbours
Chart to be inserted.***



4. EMERGENCY RESPONSE COMMITTEE

4.1 Objective

To be co-ordinated with the Authorities:

In case of a major accident or long lasting emergency situations an Emergency Response Committee (ERC) will be established. ERC shall monitor the emergencies and ensure that they are dealt with promptly, correctly and efficiently. The purpose of any safety operation is to save human lives, protect persons' health and minimise damages to the environment and equipment. The Site Manager is to decide when to call the ERC.

Members of ERC are:

- The Site Manager (Chairman)
- Representatives from relevant contractors.
- Representatives from relevant authorities.

The representatives shall be appointed when the project is commenced or when a contractor is joining. Suppliers are also to be appointed and to step in when required.

The Chairman shall establish a logbook every time the ERC is called. All incidents and actions initiated of the ERC in connection with the emergency are to be recorded (See attached log book sheet – appendix 6).

The ERC is responsible for:

- Communication to offshore based units.
- Provision of an updated POB list.
- Communication with the authorities and the contractors.
- Provision of necessary specialist assistance.
- Information of next-of-kin via the police or the company.
- Providing psychological assistance if required.
- Handling the news media.

A command station is to be set up with a command post in an especially equipped room. The command station and command post are to be fitted with the necessary communication equipment. Furnishing of the room is described in Appendix 5.

4.2 Psychological Crises Assistance

The Site Manager is to provide psychological assistance as an option for those who have been involved in an accident.

4.3 Handling of News Media

To ensure the news media's gets factual information about the incident all press contacts shall be directed to the Site Manager.

In this way avoided is that persons who has been involved in an accident are to pressure from reporters and photographers etc. at a time where the person still may be shocked from the experience of the incident.



Press statements are endeavoured to be co-ordinated with the police, the MRCC and other authorities in order to ensure the factual information released and to avoid contradiction between the involved parties.

Press releases are to be printed and distributed to the members of the Emergency Response Committee, the main contractors management, contractors and the authorities. The attached sheet may be used.

Press statement sheet is shown in appendix 4.

5. COMMUNICATION AND ALERTING

5.1 Communication

a list of channels, frequencies and telephone numbers will be kept and added to this plan at a later date as appendix 3.

5.2 Contacts

A list of contacts for the project can be found under appendix 3.

5.3 Alerting flowchart

Alerting flow diagram to be inserted.

5.4 Alerting Check List

See appendix 1.

6. ORGANISATION AND RESPONSIBILITY

The organisation chart will be added at a later date

6.1 Site Manager

The Site Manager is responsible for co-ordination of the work and the health and safety issues related to the project. He shall ensure that all safety procedures, safety policies and requirements of the authorities are adhered to.

In emergency situations he is responsible for alerting and informing relevant parties.

6.2 Supervisors

Supervisor's responsibility is that all work and operations under his supervision take place under healthy and safe conditions and in accordance with existing procedures and authority requirements.

The supervisors shall:

- Ensure that their personnel are trained to carry out the tasks safely.
- Ensure that the personnel have been informed about risk and precautions before the work commences.
- Ensure that personnel protection equipment is present, adequate and in good condition.
- Report all first aid treatments, near-miss incidents and accidents to the Site Manager.
- Set a good example for his employees and put safety on the agenda.
-

**APPENDIX 1 – ALARM CHECK LIST**

| | |
|--------|------------|
| Place: | Date: |
| Name: | Signature: |

| | |
|--|--|
| Who is calling? | |
| Where are you calling from? | |
| Where is the emergency? | |
| What happened? | |
| When did it happen? | |
| What sort of help is needed? | |
| What measures have already been taken? | |
| Who has been notified? | |
| How many need help? | |
| How many are there on the scene of the accident? | |
| How many have been evacuated? | |
| How many are dead? | |
| What sort of material damage is there? | |
| What is the weather like? (wind speed and direction, visibility, wave height and speed, air temperature, water temperature) | |
| When is the next report expected? | |

Emergency switchboard Phone 112.



APPENDIX 2 – HOSTAGE SITUATIONS AND BOMB THREATS

Complete the checklist below during the telephone conversation if possible.
Contact the police as soon as possible, and agree subsequent actions with them.

Bomb threat

- Remain calm and attentive
- Do not interrupt the person who has called
- Maintain a dialogue by asking questions
- Repeat the bomb threat – word for word if possible; take notes.

Ask the following questions and repeat the answers; take notes

- Where is the bomb?
- When is it set to detonate?
- How big is the charge?
- What is the purpose of the action?
- Who is responsible for the action?
- Are you aware that many people may be injured?
- How can we save the people on board?
- Do you know anyone on board?
- Where are you calling from?
- What is your name? Whom am I speaking to?
- Other questions and answers – keep asking questions.

Date: Time: Call received by:

During the conversation, attempt to check the following:

Man Woman Boy Girl Approx. age ...

Voice

Loud..... Dark..... Angry..... Lispng.....
Quiet..... Light..... Soft..... Distorted....

Dialect/accent/choice of words:.....

Dutch dialect:.....

Other language:.....

Strange choice of words:.....

State of mind

Relaxed: Nervous: Excited: Laughing: Traffic noi- Voice: Nothing:
se:

Did it sound like the caller was familiar with the place or knew people on site?

Yes: No: Don't know:



Hostage situations, sabotage

The following checklist can be used in the event of hostage situations or sabotage.

- Be attentive
- Be careful – especially if the hostage-taker or terrorist seems nervous

Attempt to discover the following information:

- Name of the ship/rig
- Its position
- The weather conditions
- Number of people on board
- The method of attack
- The name of the organisation responsible
- The number of hostage-takers or terrorists
- What weapons do they have
- Demands/threats
- The number of hostages
- Inform the Site Manager



APPENDIX 3 – LIST OF CONTACT PERSONS

| Authority – Position | Name | Phone |
|-----------------------------|------|-------|
| Rescue Service | | |
| MRCC XXXXX | | |
| Doctor on call | | |
| BN/NEGM: | Fax: | |
| Site Manager | | |
| Safety Manager | | |
| Health & Safety Coordinator | | |
| Traffic/Vessel Coordinator | | |
| Diving Coordinator | | |
| Project Manager | | |
| Turbines: | Fax: | |
| Project Manager | | |
| Site Manager | | |
| Erection Manager | | |
| Safety Coordinator | | |
| Foundation: | | |
| Project Manager | | |
| Site Manager | | |
| Erection Manager | | |
| Safety Coordinator | | |
| Cables: | Fax: | |
| Project Manager | | |
| Site Manager | | |
| Safety Coordinator | | |
| The Maritime Authority | | |
| Labour Authority | | |
| Police | | |
| HOSPITAL | | |
| Airport | | |

MRCC Ijmuiden can be reached 24 hours via maritime VHH channel 16 by calling +++ call signs +++. The working frequencies have to be decided.

MRCC+++ may also be reached by telephone +++++++.

Nederland/Dutch ++++++ can be reached 24 hours via ++++++ or by telephone +++, fax +++, and e-mail ++++++

**APPENDIX 4 – PRESS RELEASE**

| | | | |
|--|-------|-------|------|
| Subject: | Date: | Time: | No.: |
| 1. Event (what happened?) | | | |
| 2. Time (When did it happen?) | | | |
| 3. Place (Where did it happen?) | | | |
| 4. Parties concerned (Who was involved in the event?) | | | |
| 5. Status (Who did what?) | | | |
| 6. Action (What actions will be taken to get the event under control?) | | | |
| 7. Additional information | | | |
| 8. Signature and title | | | |



APPENDIX 5 – EMERGENCY ROOM

There is a room for emergency purposes at the BN/NEGMs Site Management.

The room is located as follows:

XXXX
XXXX
XXXX

The room contains:

- Conference furniture
- Possibilities for connecting computer to the Internet
- Overhead projector
- White boards
- Flip-over
- Posters showing the wind farm
- Access to nearby photocopier
- Phones – *Please note, these numbers must not be given to outsiders!!!!*
 - Phone 1: XXXXXXX Police, authorities, etc.
 - Phone 2: XXXXXXX
 - Phone 3: XXXXXXX
 - Fax: XXXXXXX
- Nearby canteen
- Nearby toilet
- Land mobile with connection to HRA module
- Nearby VHF connection



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APPENDIX 7 – THUNDER AND LIGHTNING.

Thunder and lightning are extremely dangerous at sea. During thunderstorms there are no transport to/from the wind farm and between the installations. Is there a risk for an upcoming thunderstorm the wind farm shall be abandoned.

Risks

Staying outside at the offshore substation, the measurement mast and the wind turbines (wings, nacelles, tower) there is a risk to be struck directly by lightning, to be exposed to part of the lightning current and to fall down because of electrical shock or because of the blast from the lightning conductor.

In hubs or nacelles one may be exposed to parts of lightning current with subsequent risk of falling down caused by electrical shock.

On the ladders inside a wind turbine tower or the offshore substation one may be exposed to minor parts of the lightning current and fall down because of suffering electrical shock.

Outside wind turbine towers on the off shore foundation one may be exposed to side flashes whether the tower is touched or not.

On ladders leading to off shore boat landings people may be exposed to parts of the lightning current and fall down caused by electrical shock.

People located under wind turbine rotors may be hit by parts of the wings blasted away by lightning strikes.

Precautions

All works at the wind farm shall be stopped when **lightning is being seen but thunder not heard**, the distance of the thunderstorm being 10 – 30 km. The wind farm can be abandoned.

All works at the wind farm shall be stopped immediately when **thunder is being heard**, the distance of the thunder storm now being 15 – 0 km. Persons on board are to go safe havens and stay there to until the thunderstorm has passed away.

The thunderstorm is considered to be passed away when lightnings no longer are seen and one hour has gone since the last thunder has been heard.

Areas to abandon an areas which are safe

Generally platforms inside win turbine towers and offshore substation are considered safe areas if persons stay at least 0,5 m. from walls and from vertical metal parts such as ladders, wires and cables.

Platforms with cabinets for installation and transformers etc. are considered safe if the cabinets are closed and transformers etc. are in normal condition – and not dismantled.

If a wind turbine cannot be abandoned in due time everybody on board is to stay in the bottom of the tower without touching it. At the offshore platform the location has to be decided +++. The Site Manager is to be contacted and his instructions to be followed.



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