Base Load Power Hub (BLPH)

SHIPPING WITH HANDLING AND PRESERVATION AND STORAGE PROCEDURES-FIREFIGHTING AND SAFETY EQUIPMENT

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ROSETTI MARINO

1	APPROVED - WORK MAY PROCEED
2N	REVISE AND RE-SUBMIT - DO NOT PROCEED
2Y	REVISE AND RE-SUBMIT - WORK MAY PROCEED
3	REJECTED
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NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

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Table of contents

1 INTRODUCTION 5

1.1 PROJECT OVERVIEW 5

1.1.1 Project Location 5

1.1.2 Project Concept 6

2 DOCUMENT SCOPE 8

2.1 REFERENCES 8

2.2 DEFINITIONS AND ABBREVIATIONS 8

3 INSPECTION UPON SENDING 9

4 LIFTING AND HANDLING 9

5 INITIAL PRESERVATION 11

6 PACKAGING 12

7 PACKING DETAILS 14

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List of Figures

Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map..... 5

Figure 2 - Wind Park Details..... 6

Figure 3 – BLPH Concept 7

List of tables

Table 1 - Reference Documents 8

Table 2 - Definitions and Abbreviations..... 8

List of Attachments

1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

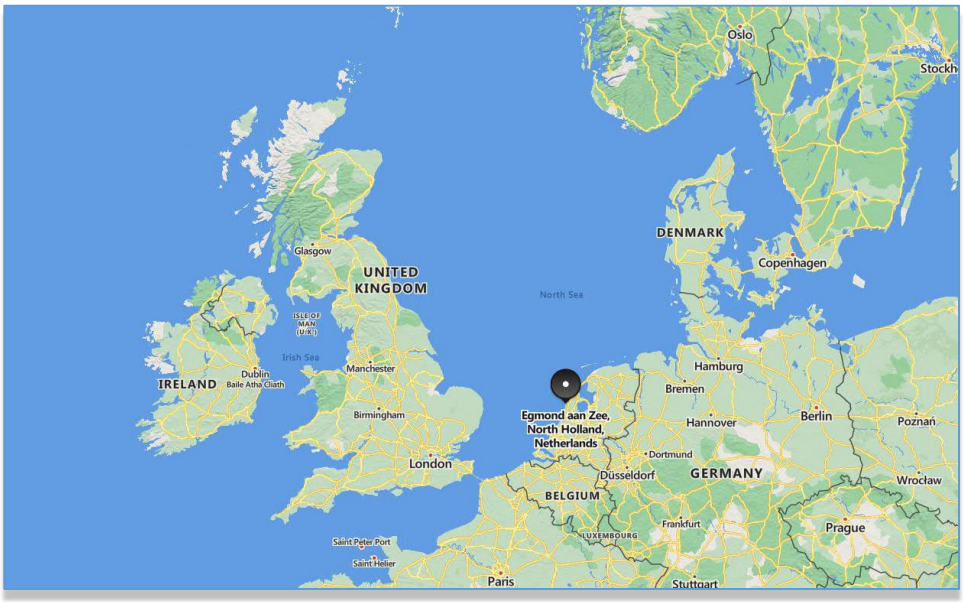


Figure 1 HOLLANDSE KUST NOORD WIND PARK Location Map

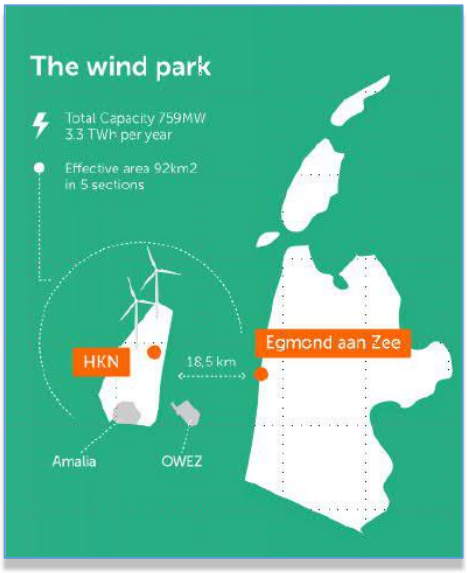


Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

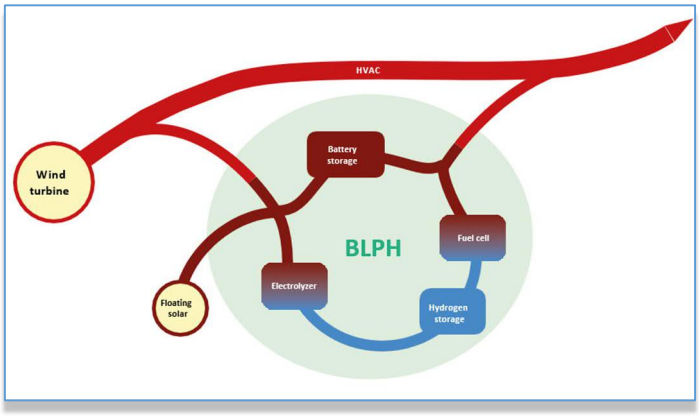


Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

2 DOCUMENT SCOPE

This document describes the shipping and preservation procedures for the Firefighting and Lifesaving equipment package. These procedures will be used when equipment is dispatched from our warehouse to the client repository.

2.1 REFERENCES

Doc. No.	Description

Table 1 - Reference Documents

2.2 DEFINITIONS AND ABBREVIATIONS

COMPANY or Client (CPY):	Crosswind
CONTRACTOR (CTR):	ROSETTI MARINO S.p.A.
PROJECT:	HOLLANDSE KUST NOORD WIND PARK Project

Table 2 - Definitions and Abbreviations

3 INSPECTION UPON SENDING

All packages will be inspected for proper marking and damaging during and after being made ready for dispatch. All equipment will be packed on proper transport media, such as pallets and crates. Any loose shipped equipment will be marked accordingly. All packages are checked to provide proper marking, including: RFID tag numbers, order number, MMT number and delivery address.

All pallets and crates will be photographed before dispatch (photo before and after sealing the package) and these photographs will be included in this dossier. These photographs will be of high enough quality to assure that reference can be made to product condition when being ready for dispatch in our warehouse

4 LIFTING AND HANDLING

All packages have been clearly marked with top side and other handling instructions, such as indicated below.

Each pallet is marked with the required information

- Shipping mark:

As per project requirements

- Shipping details
- Packing note
- Handling instructions



All packages will only be moved, using certified lifting equipment. In addition all handling will be performed by personnel that is trained and capable of performing the required tasks. During dispatch all possible care is taken to avoid damages and/or loss of functionality of the provided equipment. Summarizing:

- All goods/boxes/pallets are going to be moved, hoisted and lifted by trained personnel which are capable of performing their given task.
- Pallets will be loaded, unloaded or moved using a pallet trolley or fork lift truck that is suitable for the dimensions, the weight and the carefulness applicable for the goods.
- Lifting/hoisting by a crane of pallets will only be performed using the right hoist slings and/or other approved hoist aids which are suitable for the dimensions and the weight of the pallet.
- All other good/boxes will only be lifted/hoisted by placing them in a suitable container of hoist chest.
- Goods/boxes/pallets will not be hoisted using a hoist net!

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5 INITIAL PRESERVATION

- All goods supplied consist out of firefighting, rescue, lifesaving or safety products which have to be used in emergency situations by trained personnel.
- Prior to packaging and shipping all goods will be checked on damages, completeness and specifications in relation with the order of the customer.
- Where applicable the firefighting, rescue, lifesaving or safety products will undergo a functionality test and/or a certification process according to the applicable regulations.
- Where certification is applicable all products will be marked accordingly identifying the certification date and a certificate will be issued stating the last inspection date.
- All goods will be packed/shipped in their original (factory) packaging and be accompanied by the following documentation:
  - Commercial invoice
  - Packing list
  - Surrendered final Bill or Landing / Sea way bill
  - MSDS+MMDG
  - Goods preservation procedure and special shipping instruction if any

- Open electrical/instrument connections, like f.e. junction boxes or cable entries will be sealed to prevent moist ingress.
- There will be no use of chemicals for preservation or packing of the materials. For junction boxes Cortec VCI will be applied.

6 PACKAGING

- All goods packed in suitable cardboard boxes
- All packed goods will be placed inside on wooden pallets
- If pallets contain multiple goods or boxes each coli will be properly marked for identification purposes.
- All pallets will be sealed with plastic and marked on the outside with the content according to the customer's specifications.
- All goods/boxes/pallets will be marked clearly with at least the following information:

- Package dimensions
- Gross weight
- Dangerous good classification
- Ship to information
- Ship from information
- Information on stacking and pallet orientation

Each pallet is marked with the required information

- *Shipping mark:*
  As per project requirements
- *Shipping details*
- *Packing note*
- *Handling instructions*



Do not place any other packages on top

This side up / Fragile material / store in a dry place



Dangerous good classification if applicable

7 PACKING DETAILS

Description	Packing
Various GRP Cabinets for storage of safety equipment	• Wooden pallets • Cabinets packed in boxes/plastic • Only lift with fork lift truck or suitable sling arrangement
Safety equipment content of cabinets and containers.	• Wooden pallets • Packed in boxes/plastic • Only lift with fork lift truck or suitable sling arrangement • Equipment will be marked with storage location for easy reference.
Portable fire extinguisher	• Wooden pallets • Packed in boxes/plastic • Sealed in plastic • Only lift with fork lift truck or suitable sling arrangement

8. PACKING LISTS AND OTHER DOCUMENTS INCLUDED IN THE SHIPMENT

Upon each dispatch of goods this dispatch dossier will be amended with the following documents (when applicable):

- Commercial invoice
- Packing list
- Surrendered final Bill or Landing / Sea way bill
- MSDS+MMDG
- Goods preservation procedure and special shipping instruction if any