

Inventarislijst

Documenten m.b.t. de aanvragen voor vergunningen voor Windenergiegebied Hollandse Kust (zuid), kavels I en II van Witwind C.V.

Kavel I

Nr.	Document	Afzender	Ontvanger
	<i>Aanvraag:</i>		
1.	Cover letter	Witwind C.V.	RVO
2.	Aanvraagformulier (inclusief ontvangstbevestiging)	Witwind C.V.	RVO en Witwind C.V.
3.	Uittreksels Handelsregisters and Power of Attorney	Witwind C.V.	
4a.	Appendix 1 Summary description of realisation, operation and decommissioning	Witwind C.V.	RVO
4b.	Appendix 1 Annex Verification Document	Witwind C.V.	RVO
5.	Appendix 2 Wind report	Witwind C.V.	RVO
6.	Appendix 3 Exploitation model	Witwind C.V.	RVO
7a.	Appendix 4 Annual Report 2016 Van Oord N.V.	Witwind C.V.	RVO
7b.	Appendix 4 Annual report 2016 N.V. Eneco Beheer	Witwind C.V.	RVO
7c.	Appendix 4 Annual Statements	Witwind C.V.	RVO
8.	Appendix 5 Financing plan	Witwind C.V.	RVO
9.	Appendix 6 Table of wind turbine details and locations	Witwind C.V.	RVO
10.	Appendix 7 Table of cabling details	Witwind C.V.	RVO
11.	Appendix 8 Overview of Knowledge and Experience (A)	Witwind C.V.	RVO
12.	Appendix 9 Overview of risk identification and analysis (E)	Witwind C.V.	RVO
13.	Appendix 10 Description of measures to secure cost efficiency (F)	Witwind C.V.	RVO
14.	Niet nader te noemen document	Witwind C.V.	RVO
15.	Appendix 14 Press release	Witwind C.V.	RVO
16a.	Appendix A1 Summary description of realisation, operation and decommissioning, HKZ I+II	Witwind C.V.	RVO
16b.	Appendix A1 Annex Verification Document HKZ I+II	Witwind C.V.	RVO
17.	Appendix A2 Exploitation model HKZ I+II	Witwind C.V.	RVO
18.	Appendix A3 Overview of risk identification and analysis (E) HKZ I+II	Witwind C.V.	RVO
19.	Appendix A4 Description of measures to secure cost efficiency (F) HKZ I+II	Witwind C.V.	RVO
20.	Appendix A5 Financing plan HKZ I+II	Witwind C.V.	RVO

	<i>Beoordelingsdocumenten:</i>		
21.	Volledigheidstoets	RVO	
22.	Vermogenstoets	RVO	
23.	Financiële toets	RVO	
24.	Toetsing kavelbesluiten I en II en waterbesluit 6.16d	RWS	RVO
25.	Advies P50, CAPEX en OPEX Review Deutsche Windguard	Deutsche Windguard	RVO
26.	Herberekening projectrendement	RVO	
27.	Rangschikking HKZ I + II	RVO	
28.	Onderbouwing score aanvragers	RVO	
29.	Scoretabel aanvragers criterium E en F	RVO	
30.	Inhoudelijke toets	RVO	
31.	Besluit tot afwijzing vergunningsaanvragen HKZ I en II	RVO	Witwind C.V.

Kavel II

Nr.	Document	Afzender	Ontvanger
	<i>Aanvraag:</i>		
32.	Cover letter	Witwind C.V.	RVO
33.	Aanvraagformulier (inclusief ontvangstbevestiging)	Witwind C.V.	RVO en Witwind C.V.
34.	Uittreksels Handelsregisters and Power of Attorney	Witwind C.V.	
35a.	Appendix 1 Summary description of realisation, operation and decommissioning	Witwind C.V.	RVO
35b.	Appendix 1 Annex Verification Document	Witwind C.V.	RVO
36.	Appendix 2 Wind report	Witwind C.V.	RVO
37.	Appendix 3 Exploitation model	Witwind C.V.	RVO
38a.	Appendix 4 Annual Report 2016 Van Oord N.V.	Witwind C.V.	RVO
38b.	Appendix 4 Annual report 2016 N.V. Eneco Beheer	Witwind C.V.	RVO
38c.	Appendix 4 Annual Statements	Witwind C.V.	RVO
39.	Appendix 5 Financing plan	Witwind C.V.	RVO
40.	Appendix 6 Table of wind turbine details and locations	Witwind C.V.	RVO
41.	Appendix 7 Table of cabling details	Witwind C.V.	RVO
42.	Appendix 8 Overview of Knowledge and Experience (A)	Witwind C.V.	RVO
43.	Appendix 9 Overview of risk identification and analysis (E)	Witwind C.V.	RVO
44.	Appendix 10 Description of measures to secure cost efficiency (F)	Witwind C.V.	RVO
45.	Niet nader te noemen document	Witwind C.V.	RVO

46.	Appendix 14 Press release	Witwind C.V.	RVO
47a.	Appendix A1 Summary description of realisation, operation and decommissioning, HKZ I+II	Witwind C.V.	RVO
47b.	Appendix A1 Annex Verification Document HKZ I+II	Witwind C.V.	RVO
48.	Appendix A2 Exploitation model HKZ I+II	Witwind C.V.	RVO
49.	Appendix A3 Overview of risk identification and analysis (E) HKZ I+II	Witwind C.V.	RVO
50.	Appendix A4 Description of measures to secure cost efficiency (F) HKZ I+II	Witwind C.V.	RVO
51.	Appendix A5 Financing plan HKZ I+II	Witwind C.V.	RVO
	<i>Beoordelingsdocumenten:</i>		
52.	Volledigheidstoets	RVO	
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60.	Scoretabel aanvragers criterium E en F	RVO	
61.	Inhoudelijke toets	RVO	
62.	Besluit tot afwijzing vergunningsaanvragen HKZ I en II	RVO	Witwind C.V.



APPENDIX A1

Summary description of realisation,
operation and decommissioning

HKZ I+II

**RELYING ON THE PAST,
BUILDING FOR THE FUTURE**



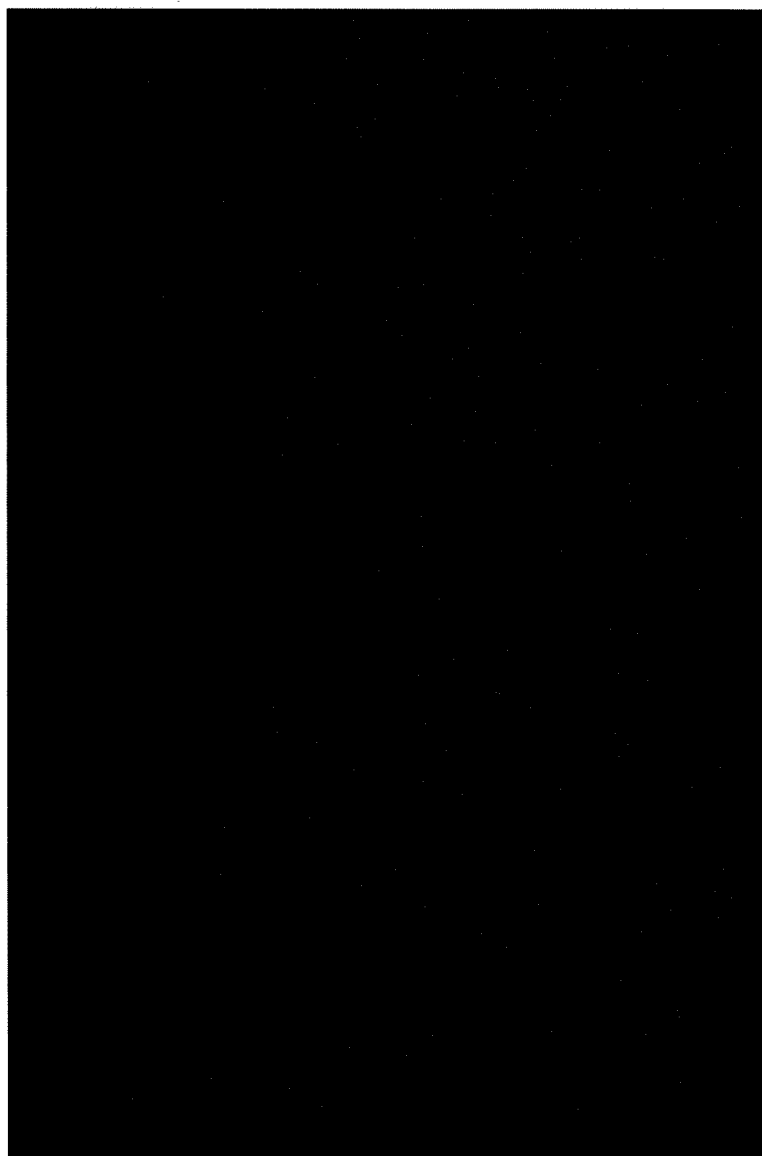
Appendix 1

Summary description of realisation, operation and decommissioning



Contents

1	Preface	5
2	Introduction to Witwind and key objectives.....	6
3	Project description	9
3.1	Scope of work and contractors.....	9
3.2	Turbine type and capacity	10
3.3	Turbine coordinates	11
3.4	Inter-array cable routes and positions	11
4	Realisation	12
4.1	Pre-bid preparation.....	13
4.2	Bid award up to financial close.....	13
4.2.1	Foundation, scour protection and inter-array cables.....	14
4.3	Fabrication phase	16
4.3.1	Transport and storage in marshalling harbour.....	17
4.4	Installation phase	18
4.4.1	Foundation installation.....	18
4.5	WTG installation.....	24
4.6	Mechanical completion, commissioning and trial runs of the WTGs.....	25
5	Operation	26
6	Decommissioning	28
	Appendix A	
	Witwind project planning.....	30
	Appendix B	
	Foundation design.....	32
	Appendix C	
	Witwind wind farm overview drawings.....	34
	Appendix D	
	Track-records	36
	Appendix E	
	Definitions and abbreviations.....	42
	Appendix F	
	HSE implementation during development phase up to financial close	44



















Wind farm - (Expected) COD - Size	Party
① Egmond aan Zee - 2007 - 108 MW	Van Oord  
② Prinses Amalia - 2008 - 120 MW	 Van Oord  
③ Eneco Luchterduinen - 2015 - 120 MW	  
④ Project Gemini - 2017 - 600 MW	Van Oord 
⑤ Westermeerwind - 2016 - 144 MW	Van Oord 
⑥ Borssele III + IV - 2020 - 731,5 MW	  
⑦ Norther - 2019 - 370 MW	  

Figure 1: Overview of the wind farms

1 Preface

Relying on the Past, Building for the Future

We are proud to introduce our consortium, 'Witwind'.
'Relying on the Past, Building for the Future' is our slogan.
Let us explain why:

The Witwind consortium consists of Dutch companies Van Oord and Eneco, together with Diamond Generating Europe and MHI Vestas Offshore Wind as the partner to supply the wind turbines.

Our name 'Witwind' refers to the middle colour - white - of the Dutch red, white and blue ensign with its flying orange banner. The four partners, working together under their name Witwind, also cooperate in the present and future consortia Blauw-wind (we already won Borssele III & IV), [REDACTED]

The strong alliance that we have formed reflects our ambition to become a long-term and reliable strategic partner for the government of the Netherlands.
The members of our consortium, jointly and each

by themselves, have established an impressive track record in the successful development, construction, operation and maintenance of offshore wind farms. It is our intention to demonstrate our continuous commitment to build on our past individual and joint achievements in the offshore wind industry – 'Relying on the Past'. By continuously improving, innovating and building upon our engineering and operational excellence, we are capable of further reducing our levelised cost of energy (LCOE) and, as a result, commit to this bid. We are aware that such an achievement, although a relatively small step for the parties involved, will be a giant leap in the history of renewable energy. It is Witwind's clear ambition to be part of that history. In other words, we are 'Building for the Future'.

Key message

Witwind aspires to be a front runner in accomplishing the goals of the government of the Netherlands in relation to further expanding the production of renewable energy in the North Sea and thereby reducing the level of greenhouse gas emission. We wish to contribute to the long-term ambition of the 'North Sea Wind Power Hub' (situated at Doggerbank) concept as presented by TenneT with the creation of 'Power Link Island(s)' with a 70-100 GW wind farm capacity surrounding it. Offshore wind energy represents one of the most important renewable technologies employed to implement the targets of the Paris Agreement and which the Netherlands translated into the Energy Agreement, and confirmed by the government's energy transition route maps. The transition along

the lines of the 'Transitiepad Licht & Kracht' will require a paradigm shift concerning the consumption of electricity, the transmission thereof and the underlying business and regulatory models. The partners of Witwind believe that electrification of industry plays a vital role in the creation of both a robust sustainable green economy in the Netherlands and [REDACTED]

The partners of Witwind offer world class expertise that will fast track the required transition projects.

2 Introduction to Witwind and key objectives

Witwind: Who we are

Let us introduce the partners which jointly make up our consortium Witwind. Together, we cover all the disciplines required to develop, fund, construct and operate Witwind (or the 'Project'). We all have strong roots in the Dutch economy and the Dutch industrial tradition. We have over a decade of shared experience: the Prinses Amalia, Luchterduinen, Norther and Blauwwind wind farms are developed, built and operated jointly.

Integrated value-focused design involves systematically identifying technical improvements and value-creating opportunities, and drastically decreasing interface risks. This results in lower costs, better performance and faster realisation.

Eneco is the strategic offtake partner and hence provides a route to market for the power and guarantees of origin (GoOs) produced by Witwind. DGE, Eneco and Van Oord are the equity providers for the Project.

Our partners

Van Oord is a Dutch family-owned company with over 150 years of experience as an international marine contractor. Van Oord thinks and acts with responsibility and focus for the long term. Van Oord has been active in the offshore wind market since 2002, with the installation of the foundations and WTGs of Horns Rev 1, and since then has been involved in the construction of over 30 windfarms, including the landmark project Gemini. Van Oord has all the dedicated purpose-built vessels and equipment available in its fleet to install the entire wind farm and has committed its fleet to the Project. Van Oord is known for its marine ingenuity and for constantly optimising its offshore wind vessels.

MHI Vestas: MHI Vestas Offshore Wind was founded in April 2014, but the company stands on the shoulders of giants. The MHI Vestas parent companies, Vestas Wind Systems A/S and Mitsubishi Heavy Industries Ltd are two of the global leaders in wind power and offshore ventures.

MHI Vestas has installed over 2.9 GW of capacity, constituting almost 1,000 wind turbines at 23 offshore wind farms. Furthermore, MHI Vestas currently provides maintenance for 2.4 GW of capacity.

The first commercial units of the V164 offshore wind turbine were installed in 2016: at Måde near Esbjerg, Denmark, and at the Burbo Bank Extension wind farm on the UK west coast.

Eneco: Eneco Groep N.V. ('Eneco'), is a leading energy company with activities across Europe, focussing predominantly on renewable energy. In its domestic market, it is a developer, generator, offtaker and supplier of gas, electricity, heating and cooling to consumers and businesses. Furthermore, Eneco is the market leader in corporate PPAs in the Netherlands and has signed contracts with the Dutch railways (NS), Google and Schiphol Group. Eneco has a keen focus on the realisation and operation of both onshore and offshore wind farms and it has an installed generation capacity of 728 MW of onshore and 249 MW of offshore wind.

Diamond Generating Europe ('DGE'):

DGE is a wholly owned subsidiary of Mitsubishi Corporation, a major Japanese conglomerate rated A by S&P and A2 by Moody's. DGE is an independent power producer focusing on new energy resources with investments in EMEA, where it has made significant investments in offshore and onshore wind, PV and CCGT power plants. It currently has a gross capacity, either installed, under construction or under development, of 3.7 GW (1.0 GW net), with a strong emphasis on the North Sea power generation market. As can be seen in Figure 1, DGE has strong working relationships with all of the other Witwind partners, Eneco, Van Oord and MHI Vestas, and a strong involvement in the Dutch renewable energy market.



Objectives

The definition of "success" is the achievement of the project's objectives. When combining the objectives of the government of the Netherlands and the partners of Witwind, the Project will be a success when Witwind executes the project while achieving the following five objectives:

Healthy and safe

We will work in the spirit of an excellent employer, enabling personal growth, fun and motivation, in a safe environment. Everyone goes home unharmed!



"Completed three months ahead of schedule, the installation of the 129 MW Eneco Luchterduinen offshore wind farm was a highlight of 2015 for us." - Adriaan Van Oord

Within funding

Our project preparation and execution processes in combination with our business model is aimed to remain within budgets as to ensure the desired return profile.

World class

Witwind will deliver a world class wind farm that fast tracks the Dutch transition to renewable energy. We are basing our Project on our extensive experience in offshore wind and our joint teams experience. The Blauwwind design, funding and contracts form the basis for our Project which we further developed. We play a leading role in the Dutch offshore wind sector and with our strong relationship with the local supply base we can provide maximum value to the local economy.



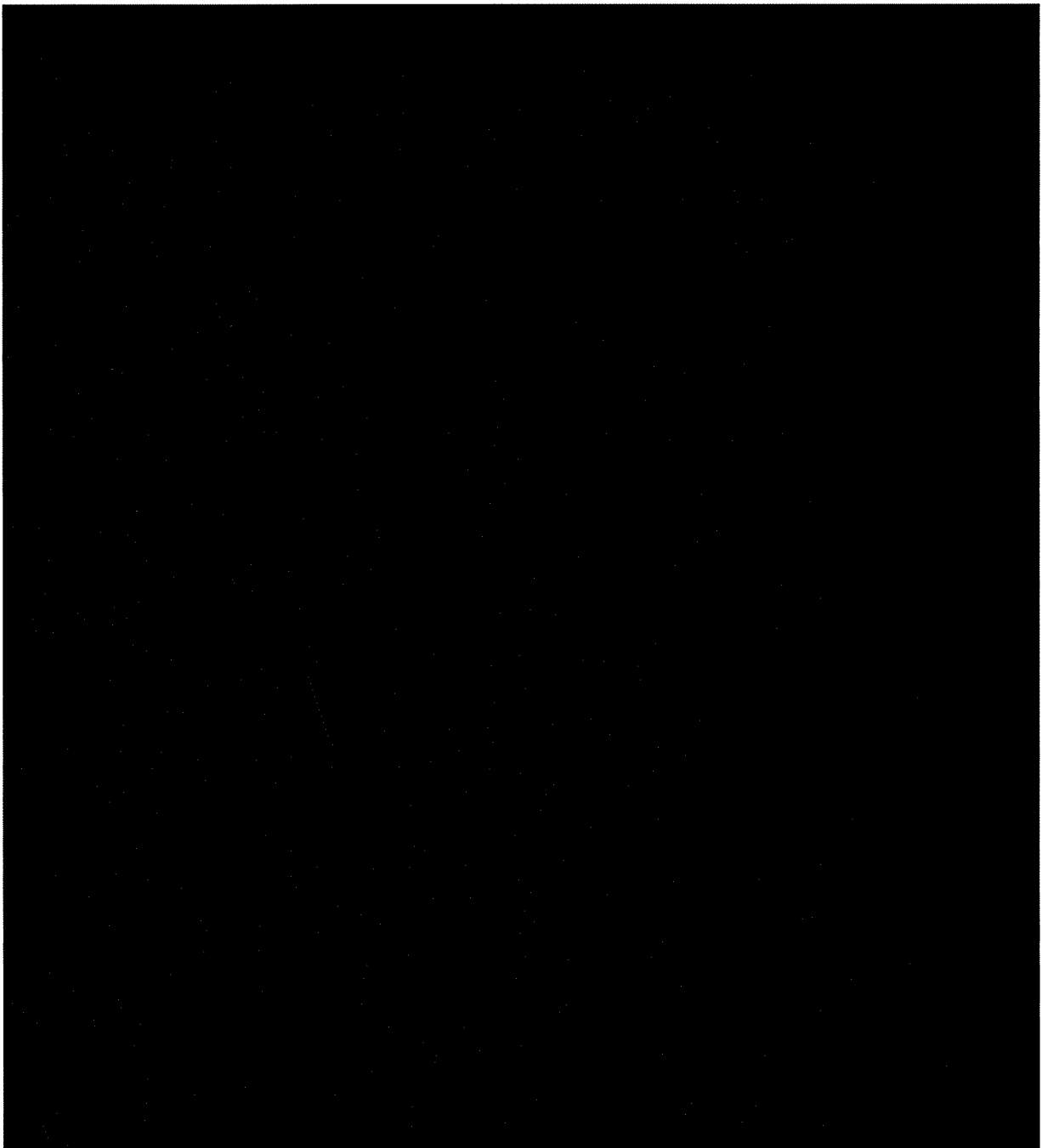
Figure 2: Witwind's 5 Key Objectives

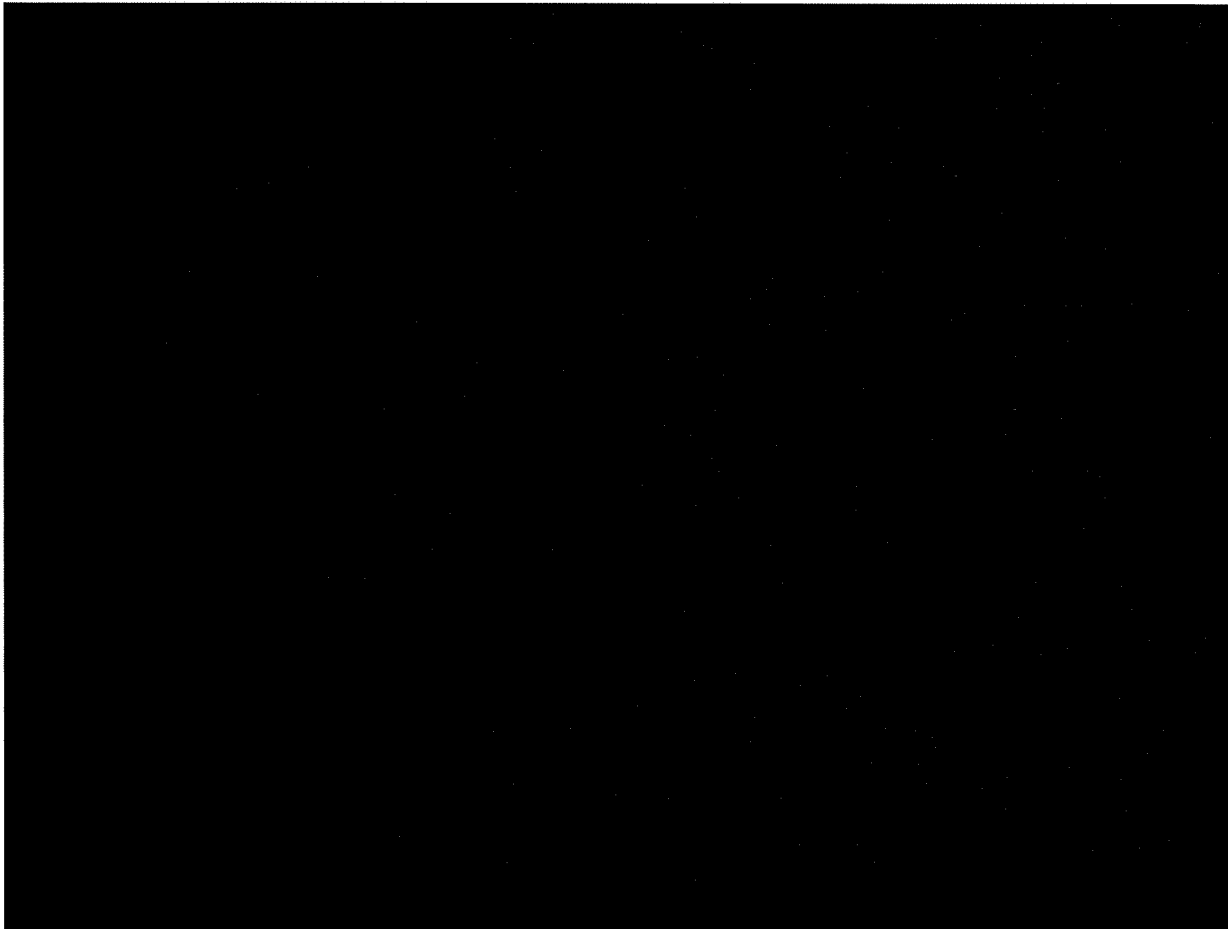


3 Project description

Witwind's plans for the Hollandse Kust (zuid) Site I and Site II comprise of two wind farms of ■■■ turbines on a monopile foundation, each rated at ■■■ MW, with a combined capacity of ■■■ MW. These will be installed over the course of ■■■■

3.1 Scope of work and contractors





3.2 Turbine type and capacity

Witwind will install a total nominal capacity of [REDACTED] MW:

- HKZ I will consist of [REDACTED] MHI Vestas Offshore Wind [REDACTED] MW WTGs (total nominal capacity of [REDACTED] MW); and
- HKZ II will consist of [REDACTED] MHI Vestas Offshore Wind [REDACTED] MW WTGs (total nominal capacity of [REDACTED] MW).

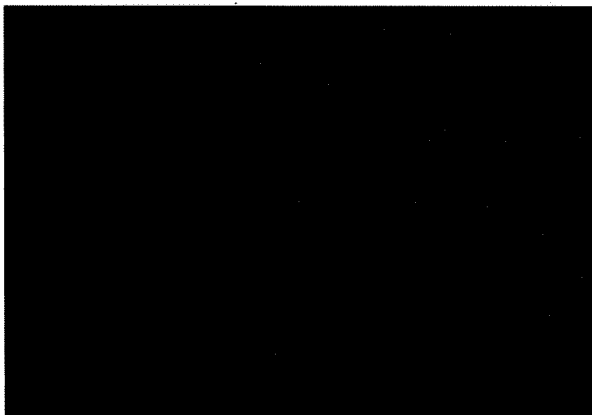


Table 1 shows that Witwind's design and platform choice complies with the requirements as set out in the Wind Farm Site Decision I and II.

Table 1: Turbine specifications and permit requirements.

Item	Permit requirement	Witwind design Site I	Witwind design Site II
WTG capacity	≥ 6 MW		
Number of WTGs	≤ 63		
Total capacity	342-380 MW		
Total swept area	≤ 1,461,542 m²		
Minimum blade tip height	+25 m MSL		
Maximum blade tip height	+251 m MSL		
Minimum distance between WTGs	> 4D		
MSL = Mean Sea Level (Average MSL related to LAT = +0.90); D = Rotor diameter			

3.3 Turbine coordinates

The WTG layout of HKZ I & II are shown in Appendix C and are also included in Appendix 6 (*Table of wind turbine details and locations HKZ I and Table of wind turbine details and locations HKZ II*). The locations of the WTGs are numbered with the letter of the string and the turbine number in the string. The geodetic information used is ETRS 1989 with a Universal Transverse Mercator (UTM) Zone 31 North (Central Meridian 3° East) projection.

3.4 Inter-array cable routes and positions

The buried inter-array cables, connect the WTGs to the TenneT platform Hollandse Kust (zuid) Alpha. The coordinates of the cable routes are shown in Appendix 7 (*Table of cabling plan details HKZ I and Table of cabling plan details HKZ II*).



4 Realisation

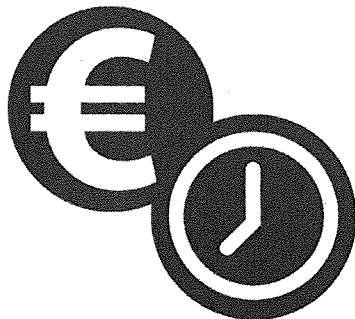
In this and the following two chapters we describe the three timeframes: Realisation, Operation and Decommissioning as mentioned in article 3 of the "Ministerial Order for permitting offshore wind energy permits for Hollandse Kust (zuid) Wind Farm Sites I and II".

This chapter describes the different phases of the wind farm realisation. The Project realisation starts with the basic design and ends with the full take-over of all the WTGs by Witwind.

Planning

The Project planning is presented in Appendix A (Witwind Project planning). The planning and our buffers are based on the availability of the irrevocable permit on May 1, 2018 and can be postponed in case of a later irrevocable permit.

The planning is furthermore based on the contractual schedules agreed with Van Oord and MHI Vestas. All installation cycle times have been optimised with recent vessel and installation experiences. Financial advisors have confirmed that the installation planning is feasible.



Risks

Witwind has developed a comprehensive and pro-active risk identification process for the Project. This includes maintaining a risk register relying on Good Industry Practice and lessons learnt from past projects, while using a

More details are described in Appendix 9 Overview of identification and analysis of the risks and Appendix 10 Description of the mitigation measures to secure cost efficiency.

4.1 Pre-bid preparation

Witwind started with the Hollandse Kust (zuid) Wind Farm Zone preparations in [REDACTED]. The tender phase included the design, contracting, financial structuring and bid preparation. The Blauwwind project has been taken as a reference and has been further optimised on several aspects. The project team consisted of around [REDACTED] people representing all consortium partners. During the tender preparation, the Engineering, Procurement, Construction and Installation (EPCI) contract for Van Oord and (Turbine Supply Agreement) TSA and Service and Availability Agreement (SAA) with MHI Vestas have been negotiated.

The foundation and tower design started in [REDACTED] with the exchange of detailed foundation, turbine, soil, wind and wave information between Van Oord and MHI Vestas. Van Oord provides the in-house design and management capacity and has already successfully delivered certified designs for wind farms such as Luchterduinen, Westermeerwind, Gemini, Deutsche Bucht and Norther.

The foundation and turbine design iteration C was finished in [REDACTED] leading to a site-specific foundation and tower design for the WTGs of the Project.

4.2 Bid award up to Financial Close

In this phase the Realisation Agreement (REA) and Connection and Transport Agreement (CTA) with TenneT will be approved and we will work on the detailed design of the wind farm. Also the financial modelling and completing the bankability process is covered in this phase up to Financial Close.

Milestone: Witwind's approval (instemming) of the Connection and Transport Agreement and Realisation Agreement will be formalized by signing these agreements with TenneT within 6 months after irrevocable permit (assumed May 1, 2018), now scheduled not later than October 30, 2018.

Within Witwind there is a wealth of experience in all aspects of realising grid connections with TenneT. Not only for the Prinses Amalia, Luchterduinen and Gemini offshore wind projects but also for major onshore projects Realisation Agreements (REA) and Connection and Transport Agreements (ATO) have been negotiated and signed.

The most recent experience stems from 2017 when the parties in Witwind successfully negotiated and signed the Realisation Agreement (REA) and Connection and Transport Agreement (ATO) with TenneT for Blauwwind. The negotiations started shortly after award of the SDE+ subsidy and were negotiated in a very constructive and efficient way [REDACTED].

Based on this recent experience and the excellent relationship with TenneT, Witwind is confident the REA and ATO contracts will be signed within six months after irrevocable permit of HKZ.

Milestone: The award (*verstrekking van opdracht*) of the main contracts with Van Oord for the BoP and MHI Vestas for the TSA and SAA is scheduled at Financial Close on [REDACTED].

At Financial Close the decision is made to continue with the wind farm investment for HKZ Site I and/or II and the contracts to suppliers and installers are awarded, provided that at Financial Close the banks and equity sponsors are in agreement about all details of the business case and start the project funding for the fabrication and construction. [REDACTED]

Design

The site data from the RVO website were used for the start-up of the design. [REDACTED]

[REDACTED] The WTG and foundations are design for the whole operational period of [REDACTED] years. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

MW WTG and runs the [REDACTED] software, which is standard for all [REDACTED] MW WTG wind farms. The positioning and connections of servers, switches and Programmable Logic Controllers (PLCs) are project specific and will be designed during the detailed design phase. Also the signal inputs (e.g. from TenneT switchgears and power metering devices), grid compliance and project specific regulations for birds are incorporated during the detailed design in the SCADA system hard- and software.

The following paragraphs detail the outcome of the basic design of the wind farm foundations.

4.2.1 Foundation, scour protection and inter-array cables

The foundation design consists of [REDACTED]

[REDACTED]

MHI Vestas has carried out an initial site suitability study for the proposed [REDACTED] MW WTG including total layout and concludes that this WTG is suitable for the Hollandse Kust (Zuid) WFS I & II.

The detailed inter array cable (IAC) design runs parallel with the detailed foundation and tower design. The cable conductor size, type of material and insulation will be designed by Van Oord, together with the cable manufacturer. [REDACTED]

[REDACTED]

[REDACTED] The potential for damages to the cables during the operational life time is minimised. The detailed IAC design has been reviewed by [REDACTED]

[REDACTED]

Scour protection will be applied to prevent erosion around the monopiles and to secure the integrity of the structure. The scour protection has been designed by Van Oord in cooperation with [REDACTED] During the detailed design, model tests will be performed at the [REDACTED]

The SCADA system is designed for the [REDACTED]

Van Oord has ample experience in the area with top class grippers and other handling equipment on board of her installation vessels. The MP is the main load bearing structure for the wind turbine. It also acts as access system for personnel and goods to and from the wind turbine. The foundation can be entered via the boat landing from a crew transfer vessel and via a motion compensated Walk-To-Work (WTW) gangway deployed from a larger offshore support vessel (OSV). Next to lifting options offered by the modern WTW systems available on OSV's for serviceability purposes, a permanent Davit Hoist system will be installed on the platform.

The foundation design has been optimised based on valuable offshore experiences and applied innovations at the Luchterduinen and Gemini wind farms, such as the [REDACTED]

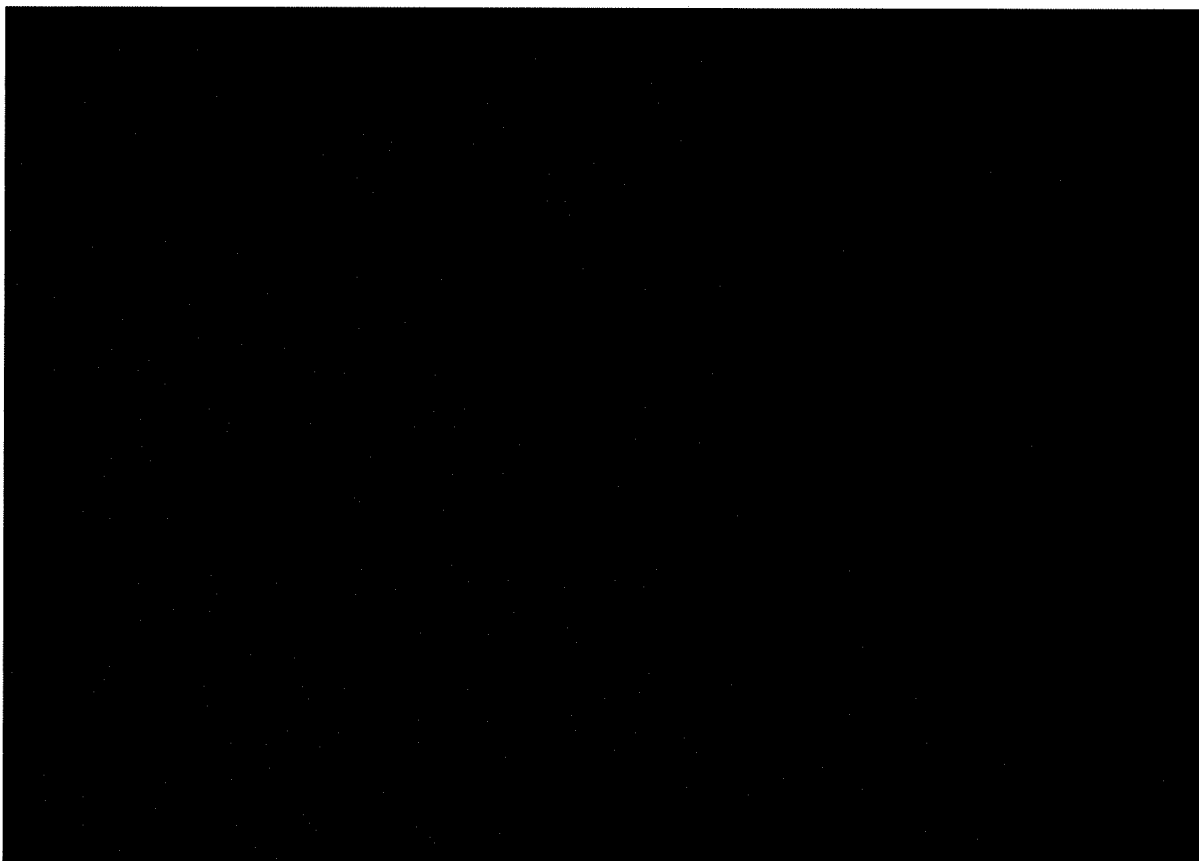


Figure 4: Witwind's Hollandse Kust (zuid) foundation design

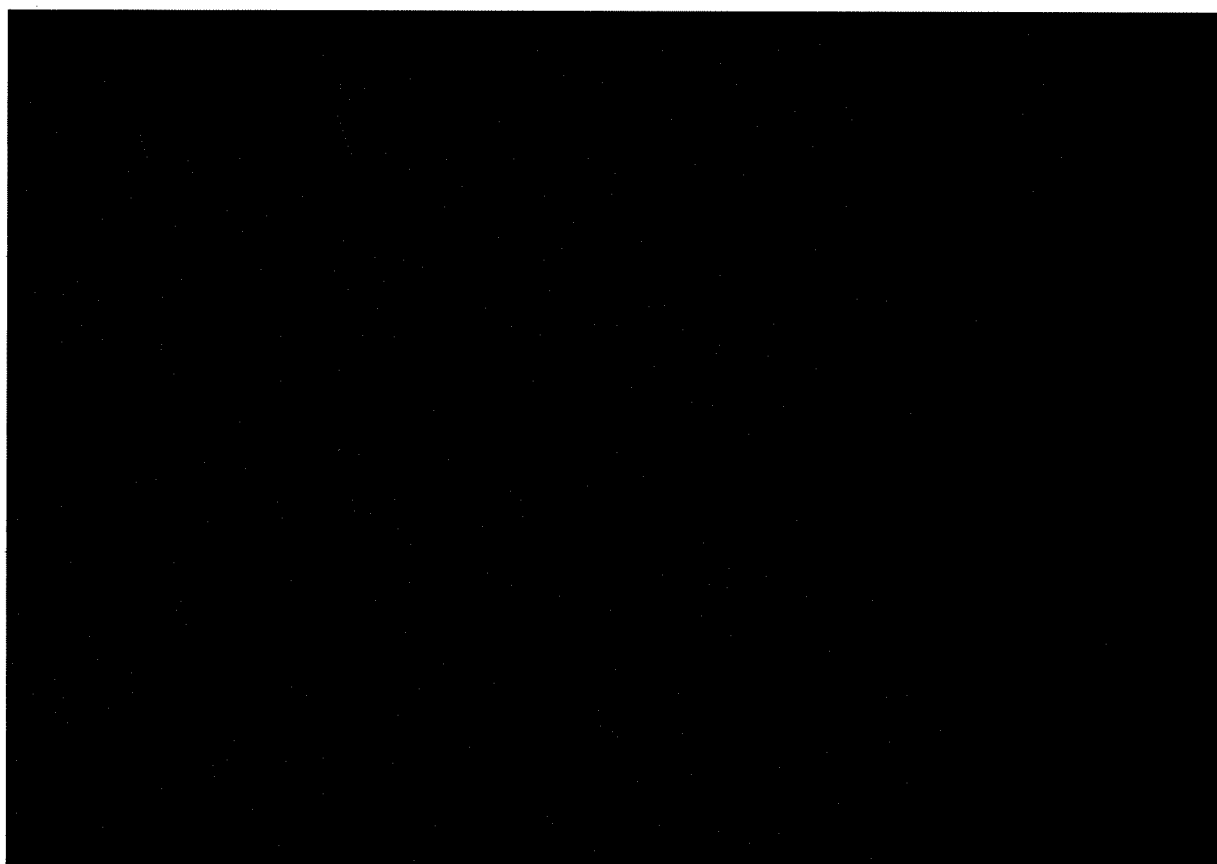


Figure 5: Witwind's Hollandse Kust (zuid) foundation design



The scour protection design consists of two stone

layers, a filter layer to keep the smaller sand particles in place at the seabed and an armour layer to protect the filter layer from currents and turbulence.



The armour shield protects the inter-array cable from damage during installation and operation.

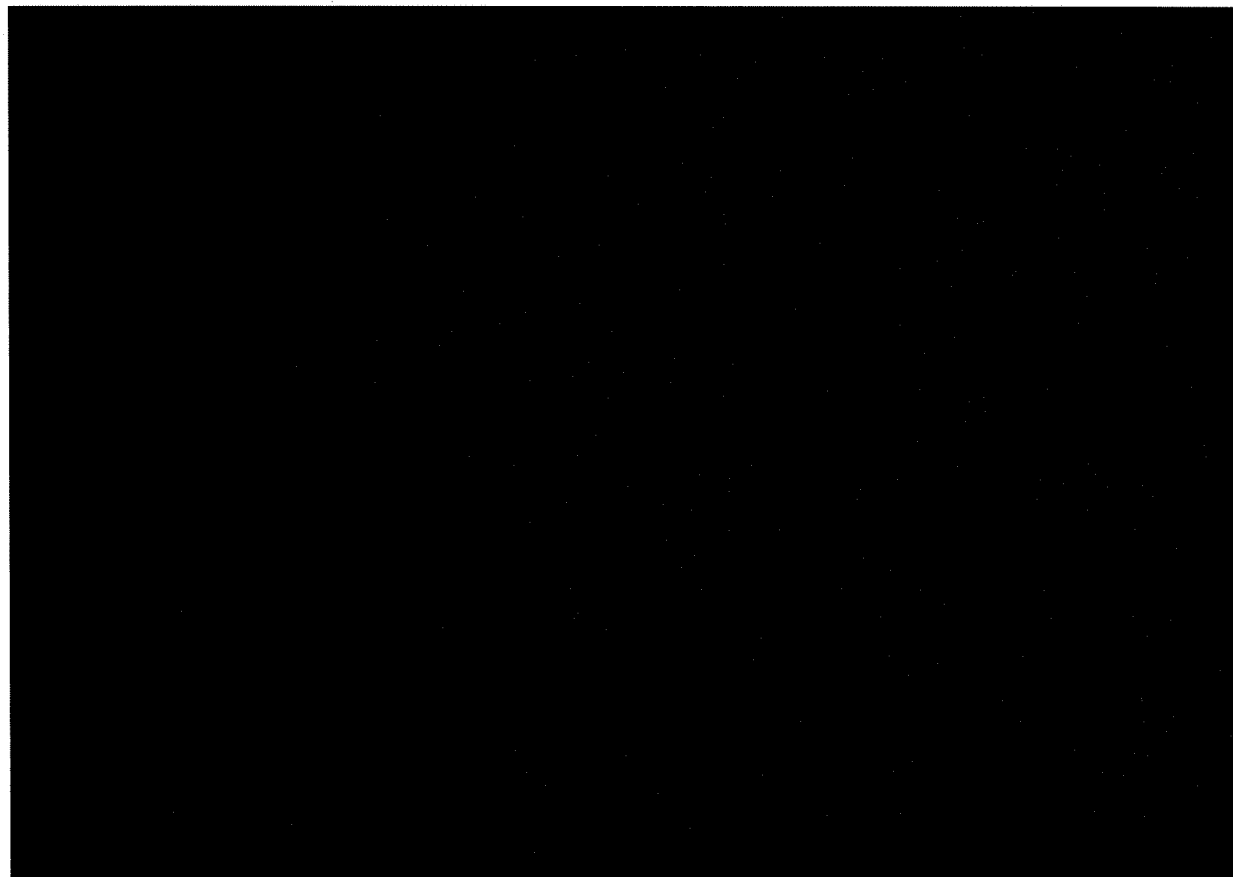
4.3 Fabrication phase

After the certification of the detailed design and Financial Close of the Project, the manufacturing of the WTGs will start. Also the procurement and fabrication of the IACs and MPs will be completed in this stage, yielding a sufficient buffer for the offshore operations.

The fabrication of the foundations will be subcontracted by Van Oord. [redacted] will be responsible for the

fabrication and the storage of the foundations in the marshalling harbour [redacted]

The IACs will be manufactured under the supervision of Van Oord. The contractor will provide sufficient evidence prior to the start of production, that the offered cables and accessories are tested according to the applicable standards for a 66kV submarine IAC.



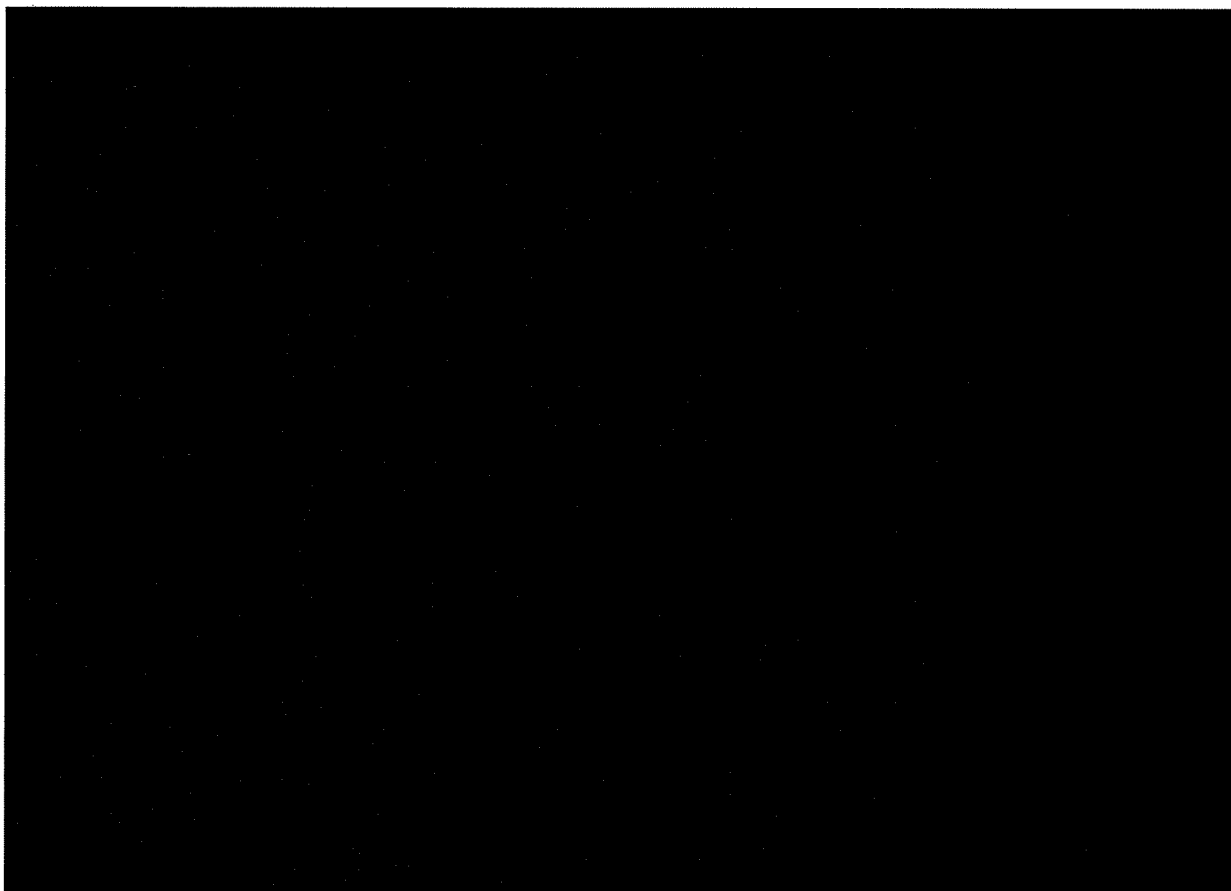


Figure 6: MHI Vestas [REDACTED] MW nacelle factory

The sourcing and manufacturing process of the WTGs for the Project is planned in detail. MHI Vestas reserves a production slot for the Project in order to secure a timely production of [REDACTED]. MHI Vestas has delivered the WTGs on time for all projects thus far: Burbo Bank Extension, Walney Extension, and Blyth. To fulfil the WTG's order pipeline, the manufacturing ramping-up process continues, includes further investment in production facilities. The SCADA system will be manufactured and delivered to fit the installation time line.

The WTG blades are transported from the Isle of Wight (UK) to the marshalling harbour of [REDACTED]. The other WTG components are transported to the main WTG assembly yard in Lindø, Denmark. After assembly the WTG's and towers will be transported to MHI Vestas' marshalling harbour in [REDACTED].

4.3.1 Transport and storage in marshalling harbour

Preparatory onshore works on the WTG's will take place in MHI Vestas' marshalling harbour. MHI Vestas has signed a landmark agreement with [REDACTED] terminal in [REDACTED] for the use of [REDACTED] hectares of the port area. This will create up to 50 local jobs. After fabrication, the MPs are transported towards the marshalling harbour in [REDACTED]. Also the secondary steel items, such as the main platform, boat landing and internal platforms are transported towards this marshalling harbour.

The parts to be transported by sea will be sea-fastened during transportation. The design of the sea-fastening will be tailor made to the applicable sailing route and its environmental characteristics. The MPs and secondary steel items are stored securely on the quayside at the marshalling harbour in [REDACTED].

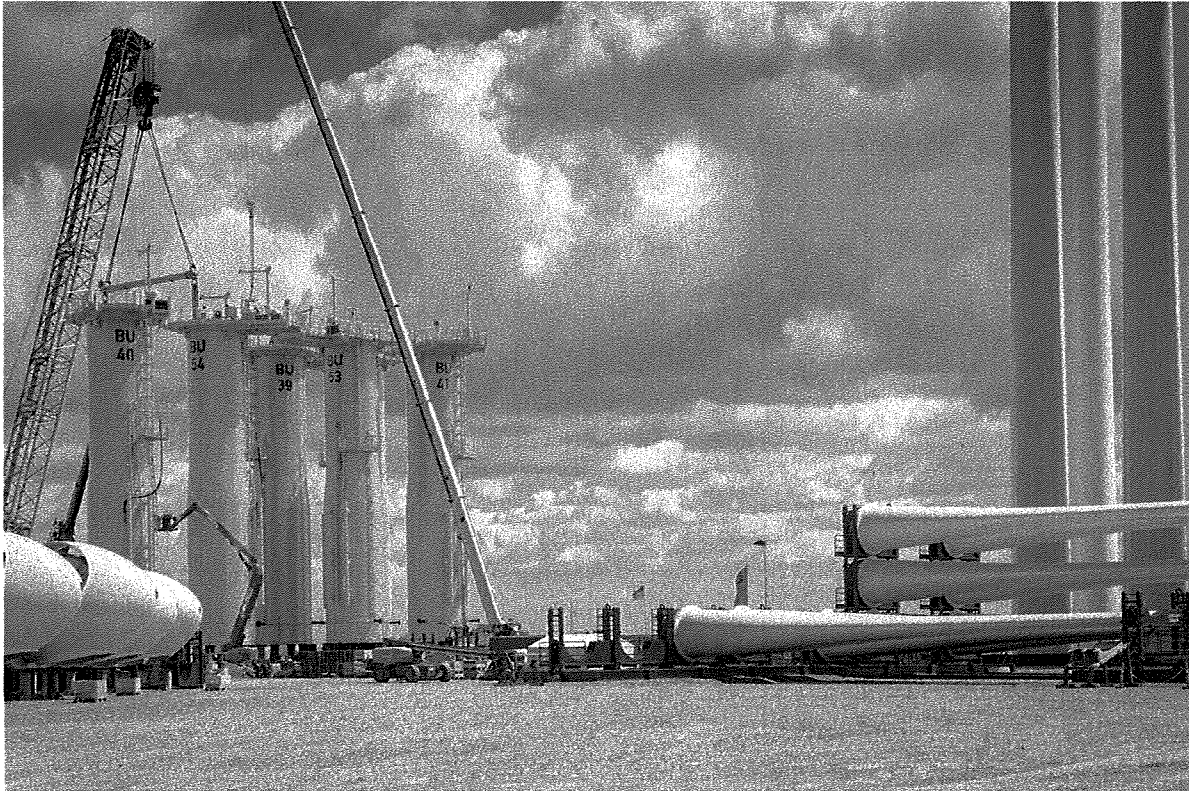


Figure 7: MHI Vestas marshalling port in Esbjerg

4.4 Installation phase

4.4.1 Foundation installation

With Van Oord as BoP contractor, Witwind has secured the state-of-the-art installation vessels such as the offshore installation vessels Aeolus, Svanen,

rock installation vessel Bravenes and the cable-lay vessel Nexus. The Aeolus, Bravenes and Nexus are recently purpose-built vessels, dedicated for offshore wind projects with proven track-record. The Svanen has recently been fully upgraded.

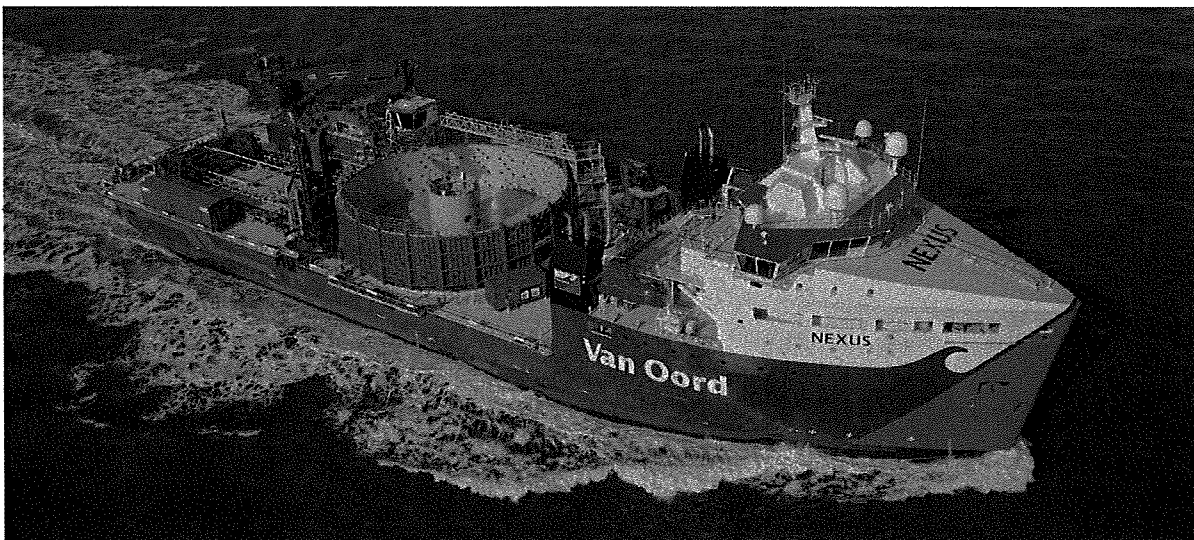
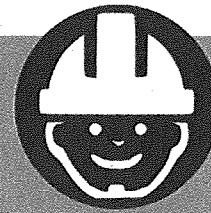


Figure 8: Van Oord's Nexus



Health and Safety

Our guiding principle is that we believe in zero incidents and no negative impact to our stakeholders and the environment. The Project is committed to:

- Pursue the goal of no harm to people;
- Protect the environment;
- Make effective use of materials, energy and best practices;
- Pursue the goal of no incidents with our neighbours and in the community we work in;
- Design, construct and install the Work consistent with these aims;
- Ensure that the HSE risks are successfully eliminated or reduced to acceptable levels;
- Embed HSE in main business processes;
- Promotion of a safety culture in which all persons working on the Project share this commitment.

In order to achieve the above, the Project will during the development (i) focus on design aspects, (ii) influence human behaviour and safety awareness and (iii) set HSE criteria for all (sub)contractors by:

1. ensure that this HSE strategy is known by the project team and implemented;
2. have clear HSE responsibilities for team members;
3. follow a Safe by Design philosophy in all project design aspects and choices;
4. carry out, maintain and communicate a suitable project HSE risk assessment with mitigation measures in place;
5. encourage the identification and notification of hazardous situations (also in and near the office);
6. describe and communicate project emergency communication lines;
7. build a team culture where HSE is integrated in the daily work processes;
8. prepare and implement high standard project HSE requirements which are part of contract agreements (a) between consortium partners and (b) with external parties hired by the project.

For a brief summary of our Witwind HSSE policy in practise during the development phase up to financial close, please revert to Appendix F.

Van Oord, Eneco, DGE and MHI-Vestas have proven they "walk the talk" by accomplishing the Offshore Wind Farm Luchterduinen without any harm to either people or the environment. These efforts could only be achieved with close cooperation and a crew entirely committed to safety.

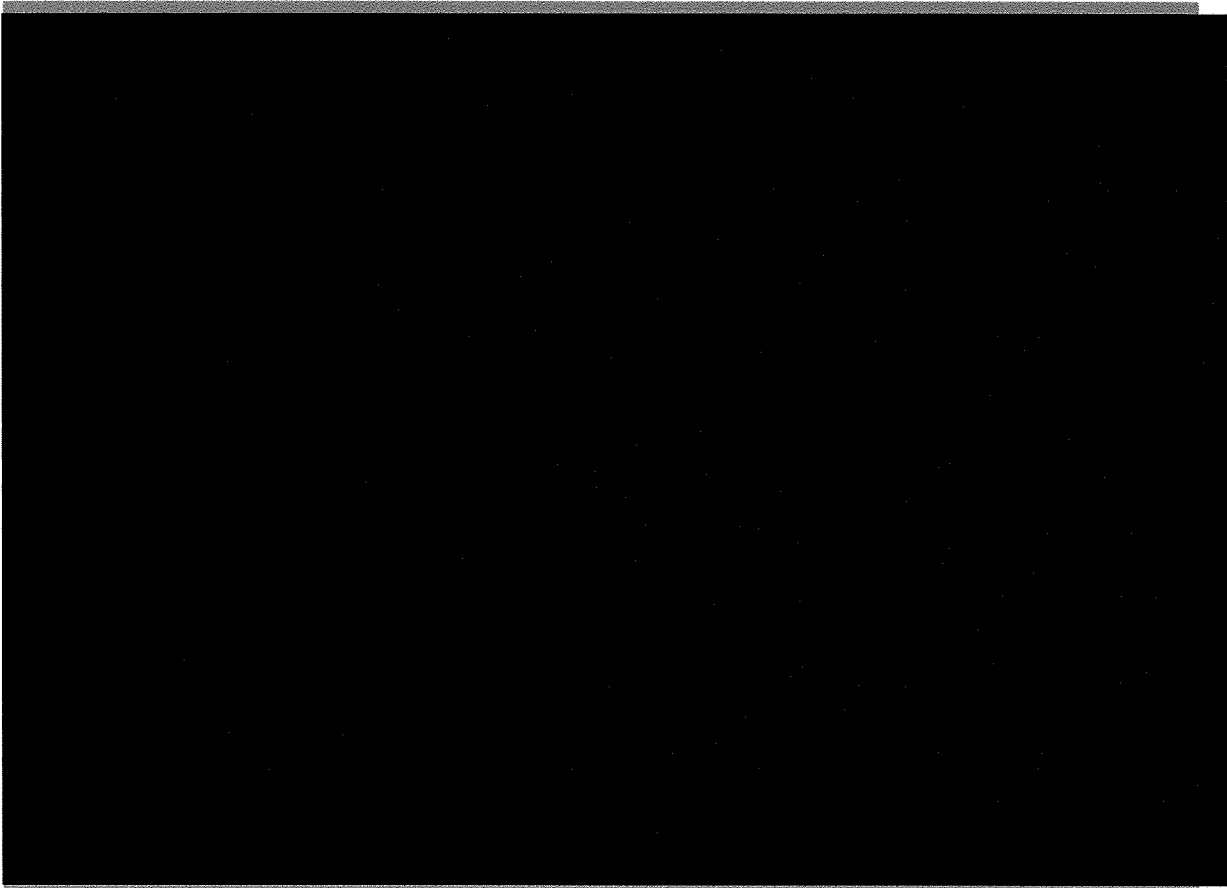
All operations related to the seabed only commence once the offshore site has been cleared of any UXOs which could cause a risk for these operations. Witwind will take all measures required to protect archaeology and cultural history.

For the safe transport of personnel from and to the vessels and WTG foundations, crew transfer vessels and walk-to-work vessels will be used. An assessment of the Project conditions and requirements will be made to select the crew vessels best suited. The modern purpose built installation vessels for the offshore wind supports this safe installation practise.

Guard vessels will be deployed on the offshore site throughout the offshore construction and installation period to alert surrounding vessels for the installation operations. Van Oord will perform the coordination of the guard vessels in co-operation with the Coast Guard.

The vessels used will also monitor and take into account the presence of seals on the plates and designated areas as well as the presence of bird concentrations.

>>>



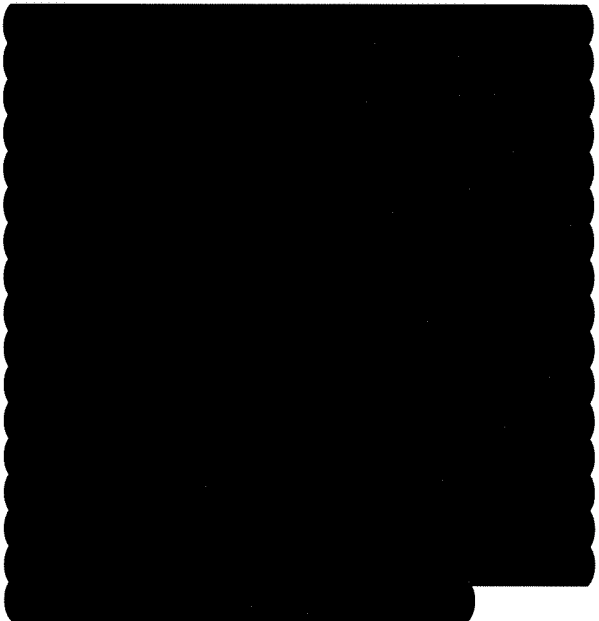
Scour protection installation

The first offshore installation activities will begin with the installation of the scour protection that consists of two types of rock layers to prevent seabed erosion around the MPs. The subsea rock installation for the scour protection will start [REDACTED]

The proposed vessel to install the scour protection is Van Oord's Bravenes. The scour protection rock will be loaded at a quarry port and is transported on board Bravenes to the WTG locations. This subsea rock installation vessel is equipped with a DP3 system (Dynamic Positioning class 3) to keep the vessel in the exact position, while installing the stone layers on the seabed.

Foundation load-out and installation

After placement of the scour protection, the foundations will be installed.



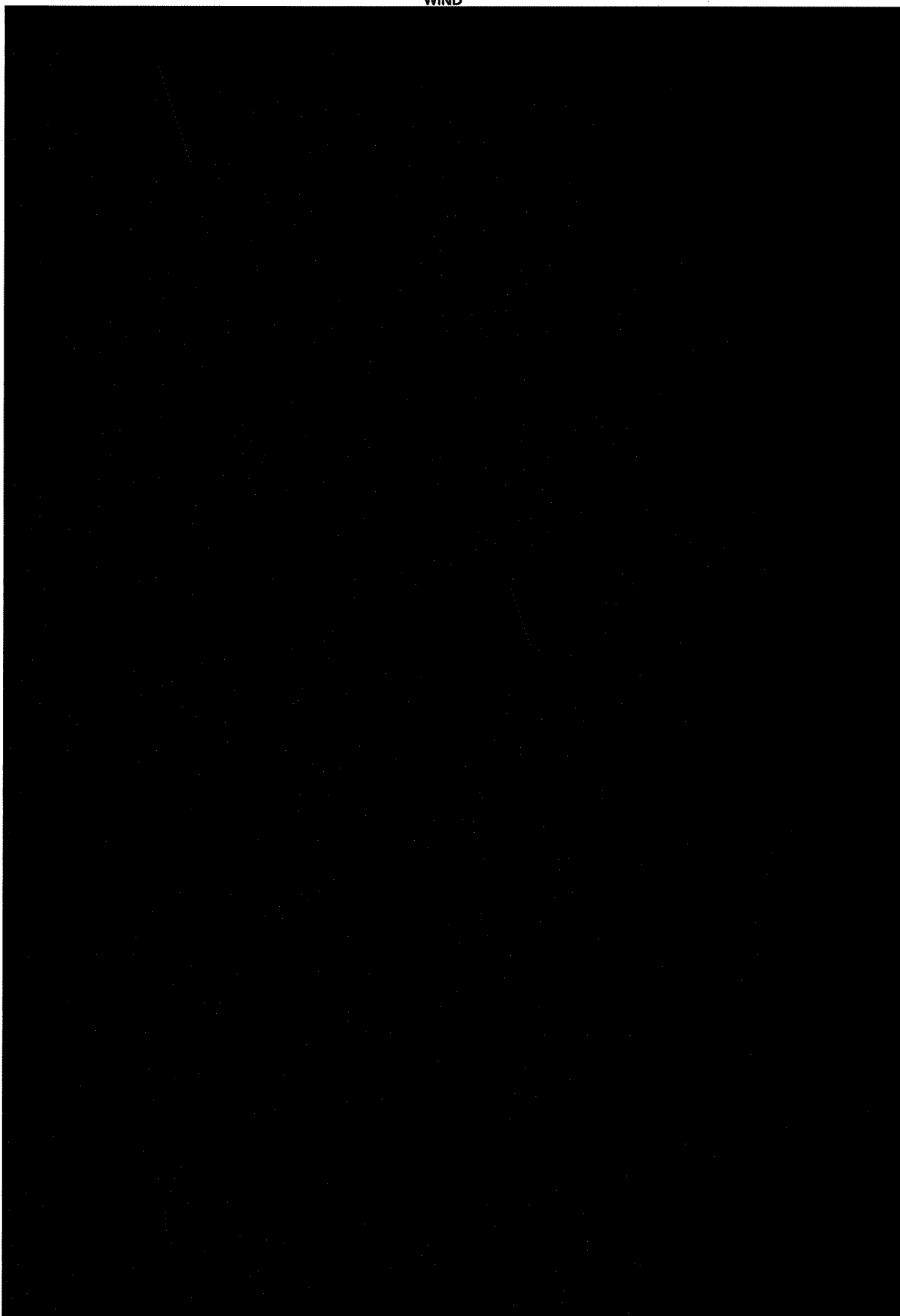


Figure 9: New deck lay-out and gripper of the Svanen

[REDACTED]

[REDACTED]

Inter-array cable installation and burial

The IAC installation is planned to start in [REDACTED]

[REDACTED] The installation begins with a pre-lay grapnel run. The pre-lay grapnel run will remove debris (such as old wires, ropes and abandoned fishing gear) that may impede the cable laying and trenching operations. The grapnel run is executed along the route of each of the IACs. The IACs will have to cross sub-sea assets. On these crossings Witwind will install industry standard crossing protections, in close cooperation and agreement with existing cable and pipeline owners. The crossings protection is proposed to consist of a typical rock berm, installed by Van Oord's Bravenes.

The main equipment used for the installation of the IACs will be the Van Oord Nexus. All cable types for the Project will be loaded onto the carousel on board the Nexus. The Nexus will install the IACs along all cable routes on the seabed. The DP2 and on-board survey crew will keep the vessel on the exact cable route whilst laying the cable on the seabed.

At the foundations and TenneT platform pull-in wires are installed, to pull-in the inter-array cable from the Nexus into the cable hole in the MP and the J-tubes at the TenneT platform. The cables are fixed in cable hang-off systems in the foundations and the TenneT platform.

The Nexus has been designed with a deployment system to allow for precision installation of the pull-in of the last end of a cable at greater depths. The installation corridor at the TenneT platform is quite narrow. Therefore, at the TenneT platform usually only the first end pull-ins will be executed. Nevertheless, it could be that for scheduling reasons, the last end of the cable has to be pulled in at the TenneT platform, given the very narrow corridor, requiring a high precision second end pull-in.



Figure10: Cable pull-in

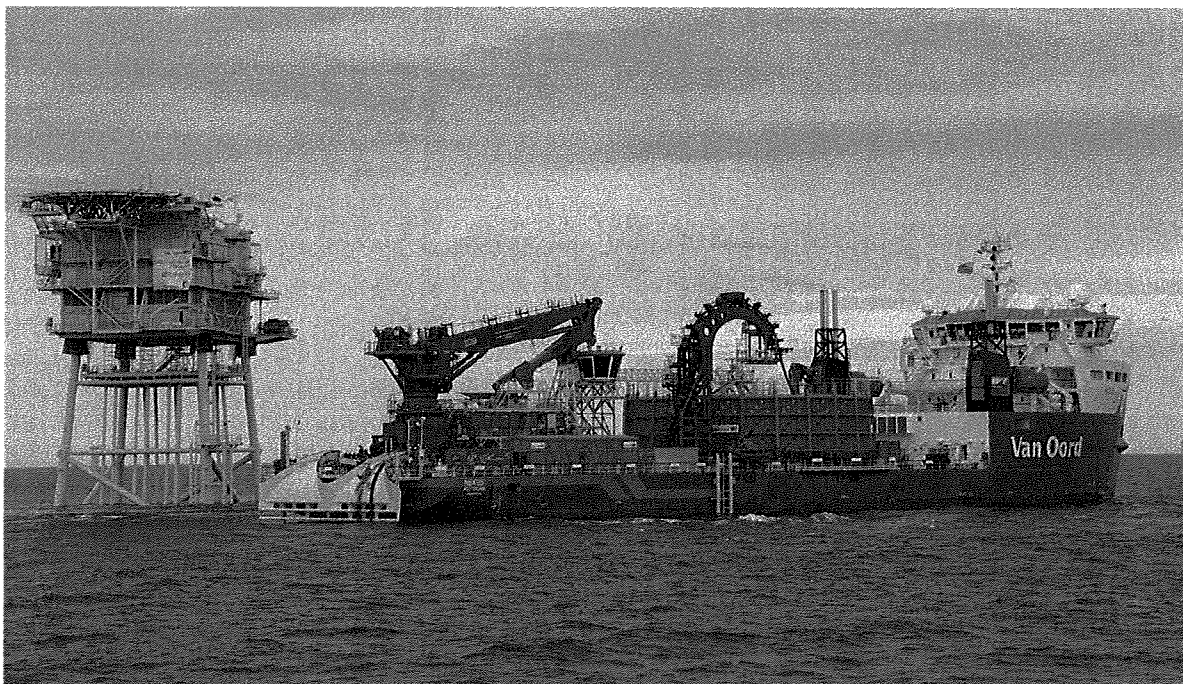


Figure 11: The cable-laying vessel Nexus in cable-laying mode at Gemini



avoiding unsafe situations and enabling insurance of the wind farm.

The IAC burial is executed by a Van Oord trenching support vessel with a Van Oord owned Q1600 jet trencher (see Figure 12).

Burial of the inter-array cables

After cable-laying, the IACs are buried into the seabed to prevent damage to cables, thereby

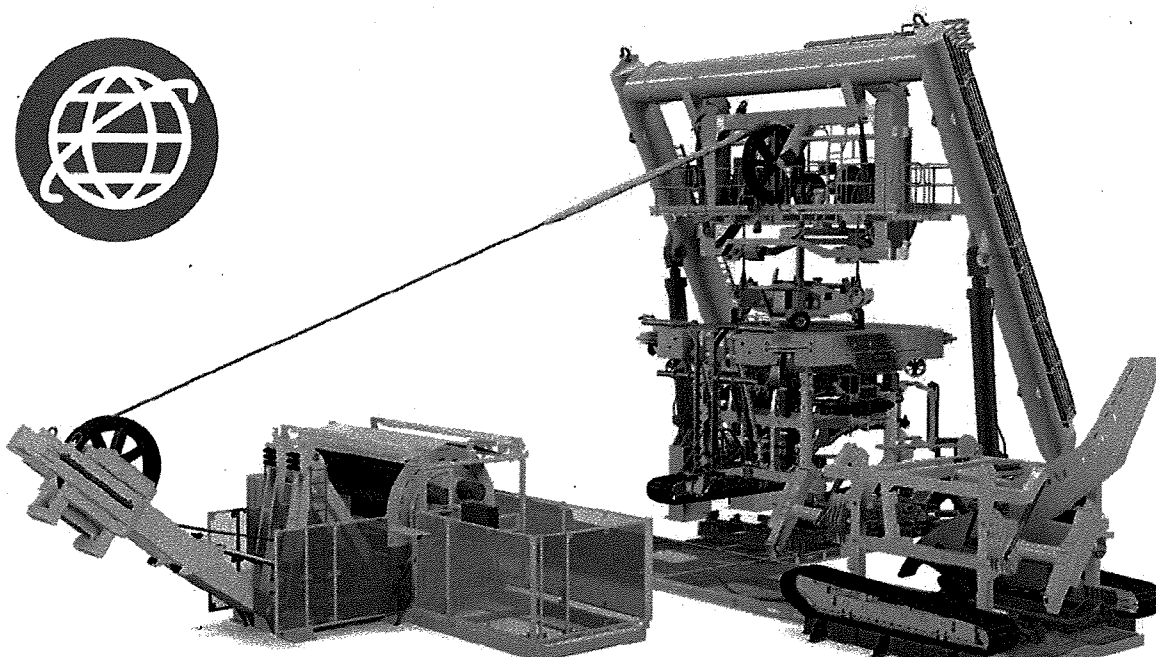


Figure 12: Q1600 trencher

4.5 WTG installation

For stability and to ensure safe and efficient working conditions the WTGs will be installed from a jack-up vessel, the Van Oord's Aeolus. All WTG components are stored on the quay side of the marshalling harbour in [REDACTED]. Four complete WTG assemblies will be loaded onto the Aeolus for the transport towards the installation location. The WTG components are securely stored on board by means of sea-fastening.

Milestone: *The installation of the first wind turbine of HKZ I is planned to start on [REDACTED]. The installation of the first wind turbine of HKZ II is planned to start on [REDACTED].*

At the installation location the jack-up legs will be lowered onto the seabed and pre-loaded to ensure a stable position. After pre-loading the vessel is jacked-up, after which the installation of the WTG components can commence.

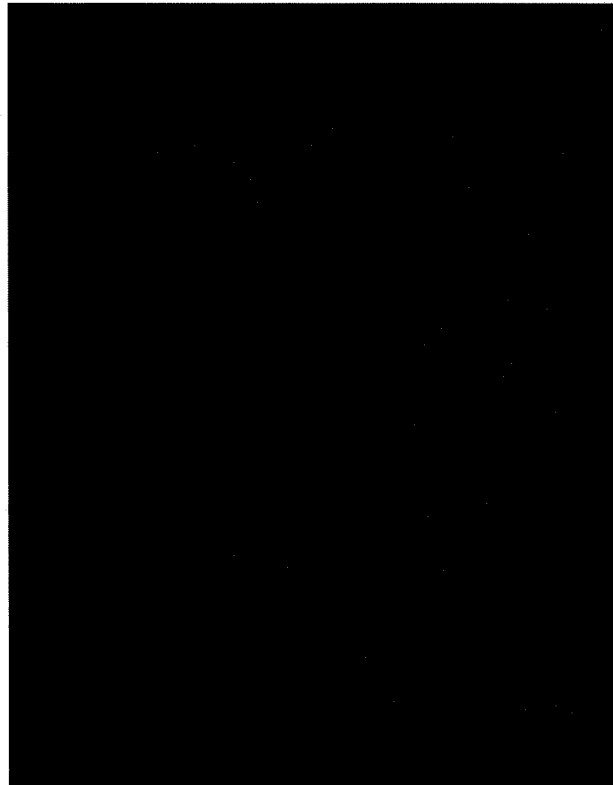


Figure 13: [REDACTED]

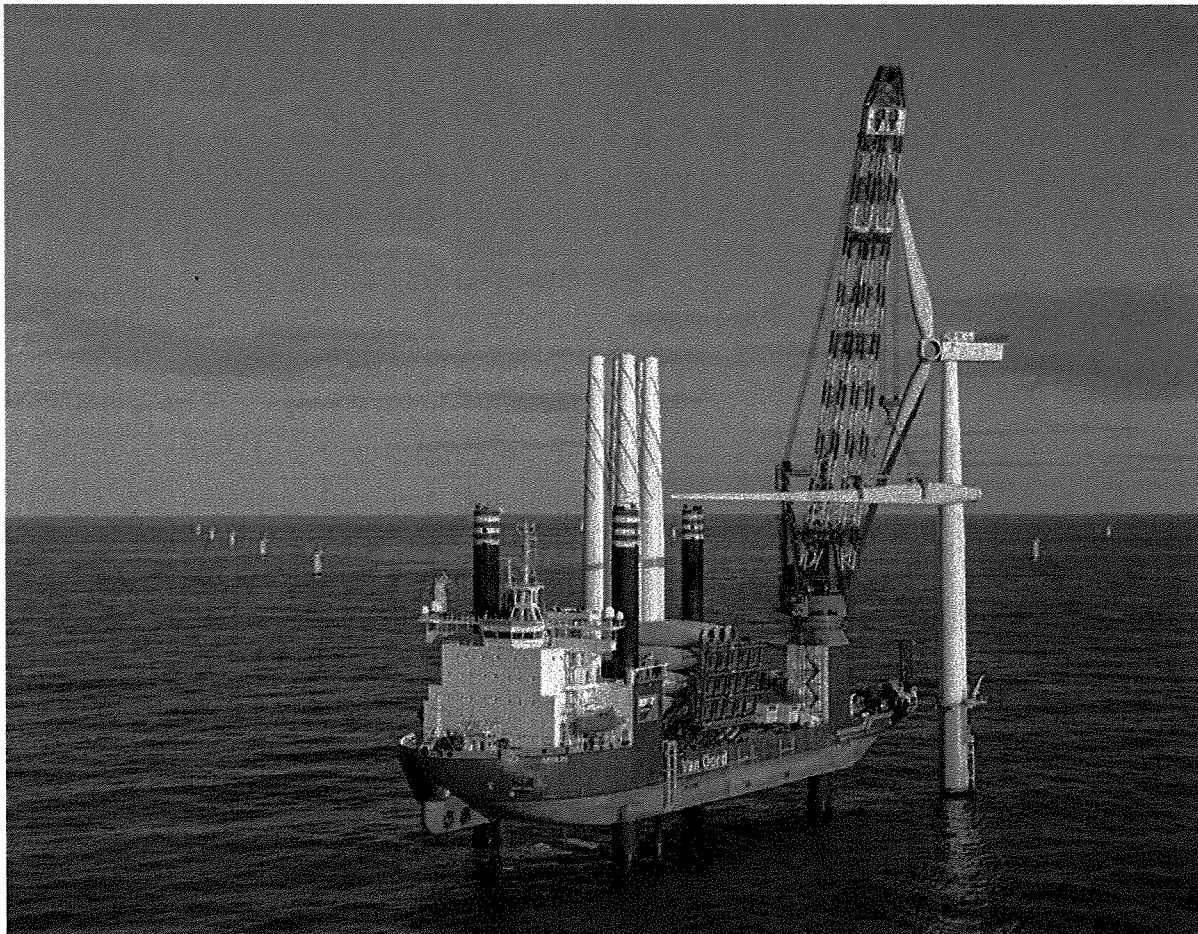


Figure 14: WTG Installation at Gemini

A gangway will be deployed onto the foundation to prepare the foundation for the installation of the WTG. The first WTG component to be installed is the tower. The lifting gear is connected to the main crane of the WTG installation vessel and the sea-fastening will be released. The tower is slewed above and lowered onto the foundation. The tower is secured onto the foundation with tensioned bolts.

Secondly, the WTG nacelle including the hub is installed. The nacelle will be hoisted above the WTG tower and bolted together. After the nacelle, the blades will be installed. The blades will be bolted onto the hub one by one. The blades are installed in horizontal position with the main crane including an advanced tag-line system. Once the WTG is installed up to the so-called non-operational safe state, the Aeolus will proceed towards the next installation location.

4.6 Mechanical completion, commissioning and trial runs of the WTGs



The tests on completion for the WTGs consist of mechanical completion, commissioning and trial runs of the WTGs. The WTG is in a so-called "non-operational safe state" after the WTG installation vessel leaves the installation location, meaning it is safely installed, but not completely mechanically and electrically completed for operation. Installation teams will return to the WTG for the mechanical completion and commissioning. This mechanical completion means that all bolted connections are fully torqued and tensioned, loose items are fixed and all wire connections are established.



Energisation will start after the cold commissioning is completed. During the hot commissioning (i.e. grid connection from TenneT Alpha is available), the cable installation and correct functioning of the assembled turbine are checked and the switchgear is energised. After hot commissioning, the WTGs will be functional and the trial runs can start.

During the trial runs the WTGs are operational and able to supply their first electricity towards the TenneT platform.

During the trial runs, the turbines are operated at full power and several acceptance tests are completed. Passing the trial runs means that the WTGs are fully operational and accepted.

The SCADA systems are installed during the foundation installation period in the TenneT onshore control building wind park owner (WPO) rooms and TenneT platform WPO rooms. The SCADA commissioning procedure commences after the relevant part of the SCADA server building has been fully installed and commissioning of at least one WTG has been completed.

Witwind will provide, at least 4 weeks before the wind farm is operational, a statement to the Minister confirming that the construction of the wind turbines and other balance of plant components forming part of the wind farm, are sufficiently strong to withstand the expected forces resulting from wind forces, waves, sea currents and use of the turbine itself.

Milestone: The start date for supply of electricity is on [redacted] for the first WTG of HKZ I. The start date of electricity for the first WTG of HKZ II is estimated to be in [redacted]

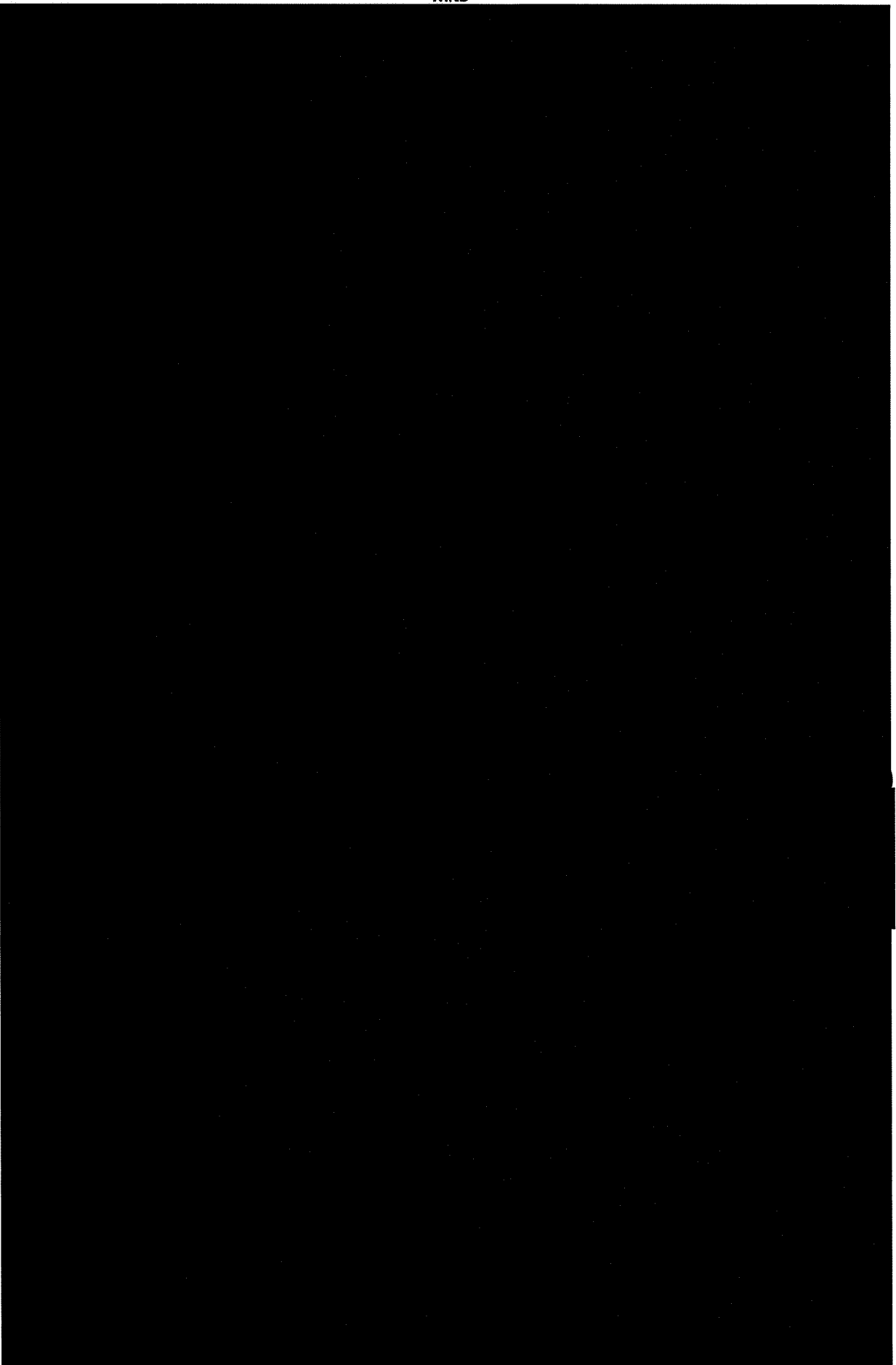




Figure 16: WTG maintenance

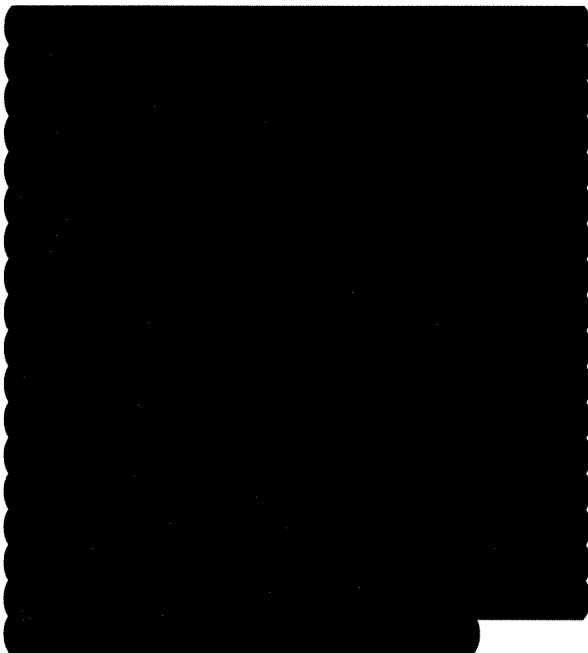


Figure 17: MHI Vestas maintenance on the [REDACTED]

6 Decommissioning

After the operational lifetime of the WTGs has ended, decommissioning of the wind farm(s) will start. The decommissioning will be finished before the end of year 30 of the permit, as per the permit requirements.

Milestone: *The decommissioning of the wind farm* is planned to start on [REDACTED] and planned to finish on [REDACTED] leaving [REDACTED] months float up to the permit end date.

A detailed decommissioning plan for removal of the WTGs and foundations will be developed and submitted to the authorities at least four weeks before start of the works. The following items of the wind farm will be removed:

- WTGs (towers and rotor-nacelle assemblies);
- Monopiles (up to a sub seabed level as specified in the permit);
- Inter-array cables;
- SCADA system and other offshore wind park owners' properties at the TenneT platform and TenneT onshore control building; and
- All other items and objects that ended up in the vicinity of the WTGs and IACs related to the installation, maintenance, use or decommissioning of the offshore wind farm.

As per tender regulations, a decommissioning reserve will be kept by Witwind for the full scope of the decommissioning of the wind farm. An experienced marine contractor (Van Oord for example is well positioned to carry out this activity) will be contracted for the offshore decommissioning of the wind farm.

Method statements, risks assessments, instructions and a recycling plan will be developed in the preparation of the decommissioning. Rijkswaterstaat and the Dutch coast guard will be consulted in preparation of such plans. The execution will follow the procedures from the method statements and plans.

During the decommissioning the wind farm areas will be monitored and guarded by guard vessels for offshore safety. After securing the site, the decommissioning starts with the de-energisation

of the WTGs and IACs. The WTG parts will be removed in the reverse order as they have been installed. The same lifting techniques can be used, carried out from a jack-up vessel or similar. The MPs will be removed in line with permit requirements.

IACs will be pulled-out by a cable barge or vessel and transported away from the site. Special attention will be paid to the inter-array cables at the TenneT platform to avoid damage to any other existing cables and pipelines.

All components are transported towards a storage yard in a Dutch port in the vicinity of the offshore wind farm. Based on current insights Witwind does not intend to re-use any WTGs or foundations and will dispose all components from the storage yard according to the applicable law, guidelines and regulations.

An inspection will be performed after decommissioning operation, in order to confirm to all involved parties that all components have been removed as per agreement.

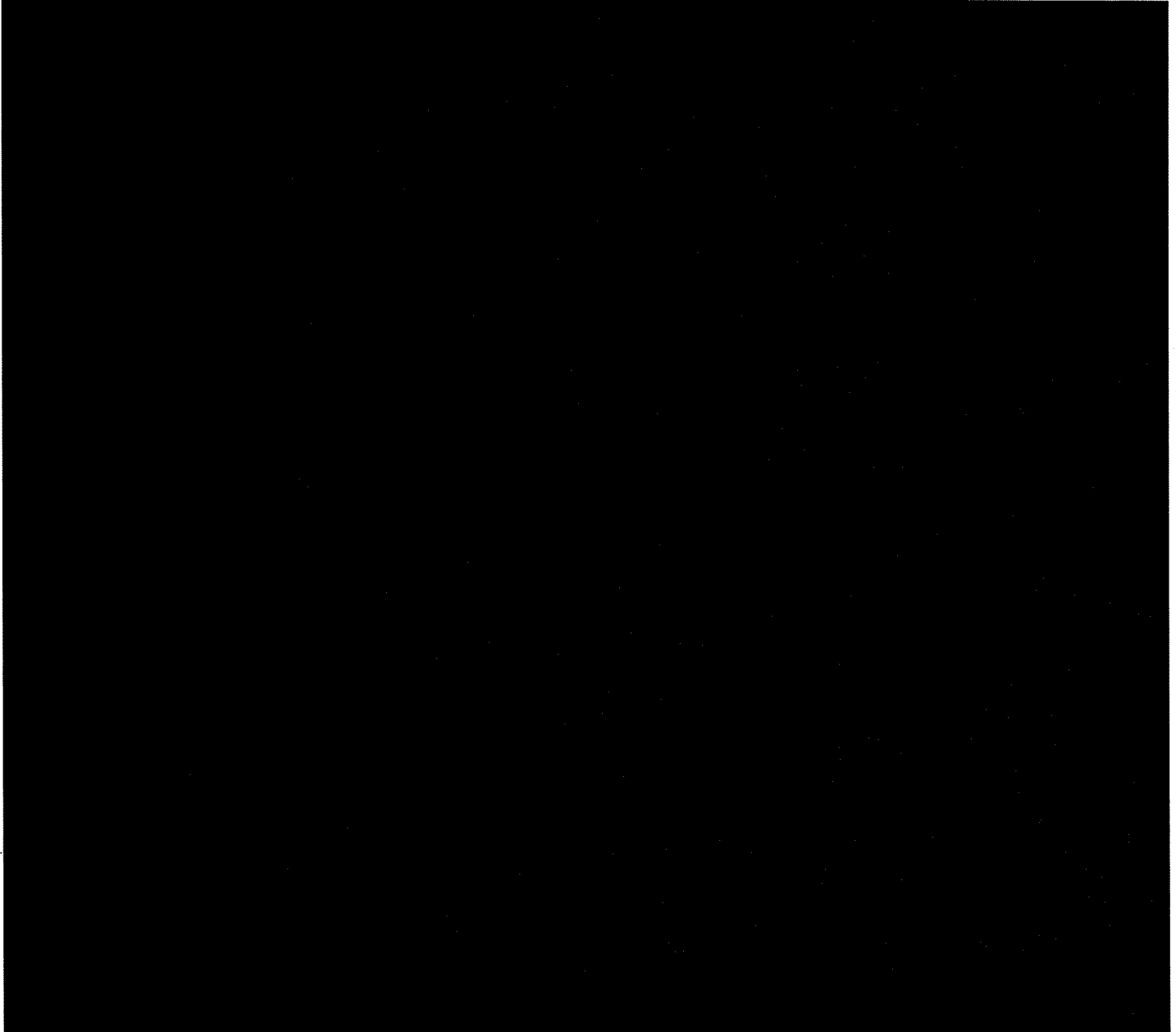
[REDACTED] During this period it is likely that Project conditions, decisive for the final decommissioning, will change. At present, the following expected (potential) conditions have been indicated and will be taken into account for the decommissioning phase:

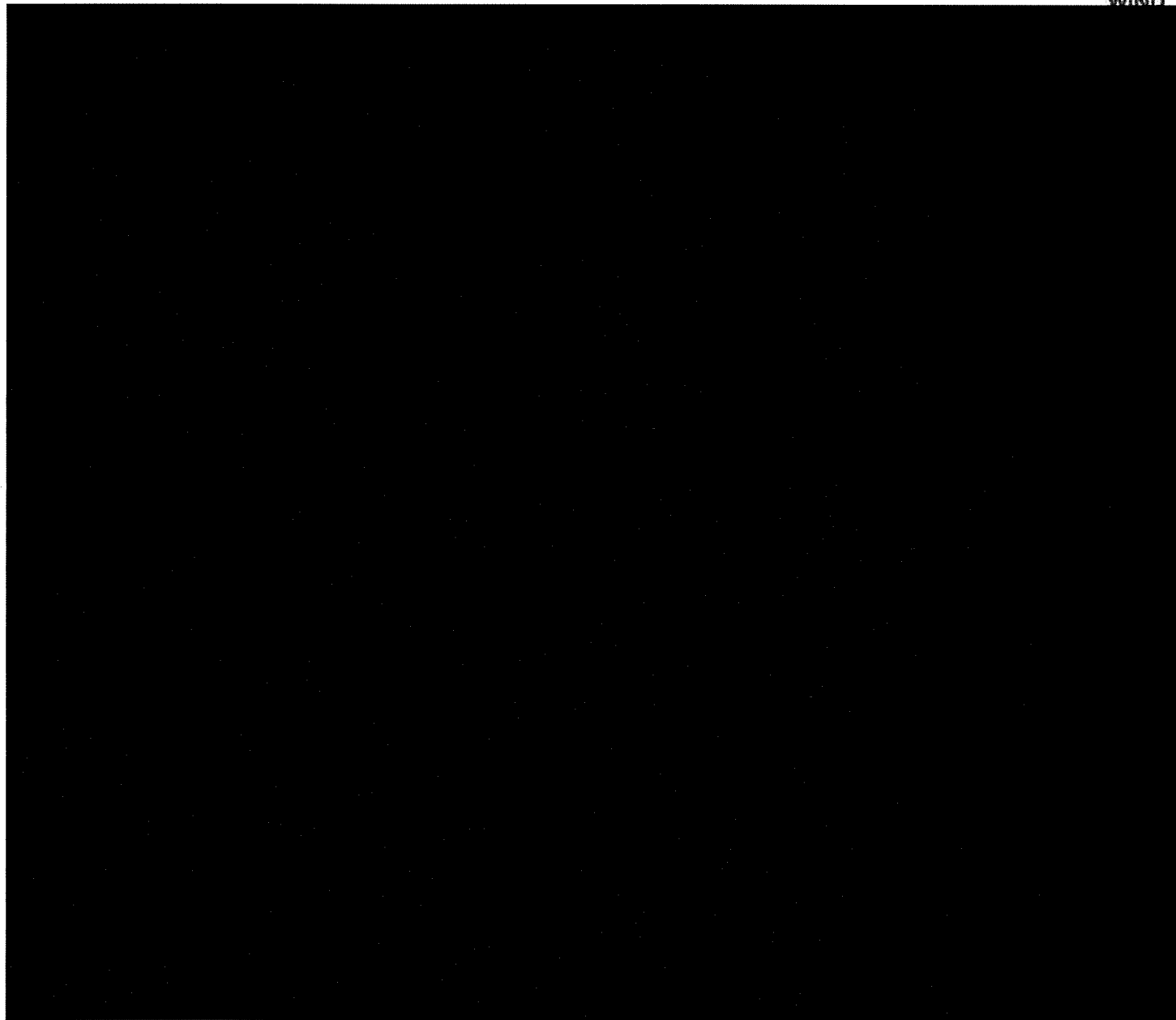
- Further tightening of permissible noise levels;
- Improvement of (underwater) cutting techniques;
- Migration of seabed levels due to erosion and sedimentation; and
- Formation of valuable biotopes in no-fishing zone.

Appendix A Witwind project planning

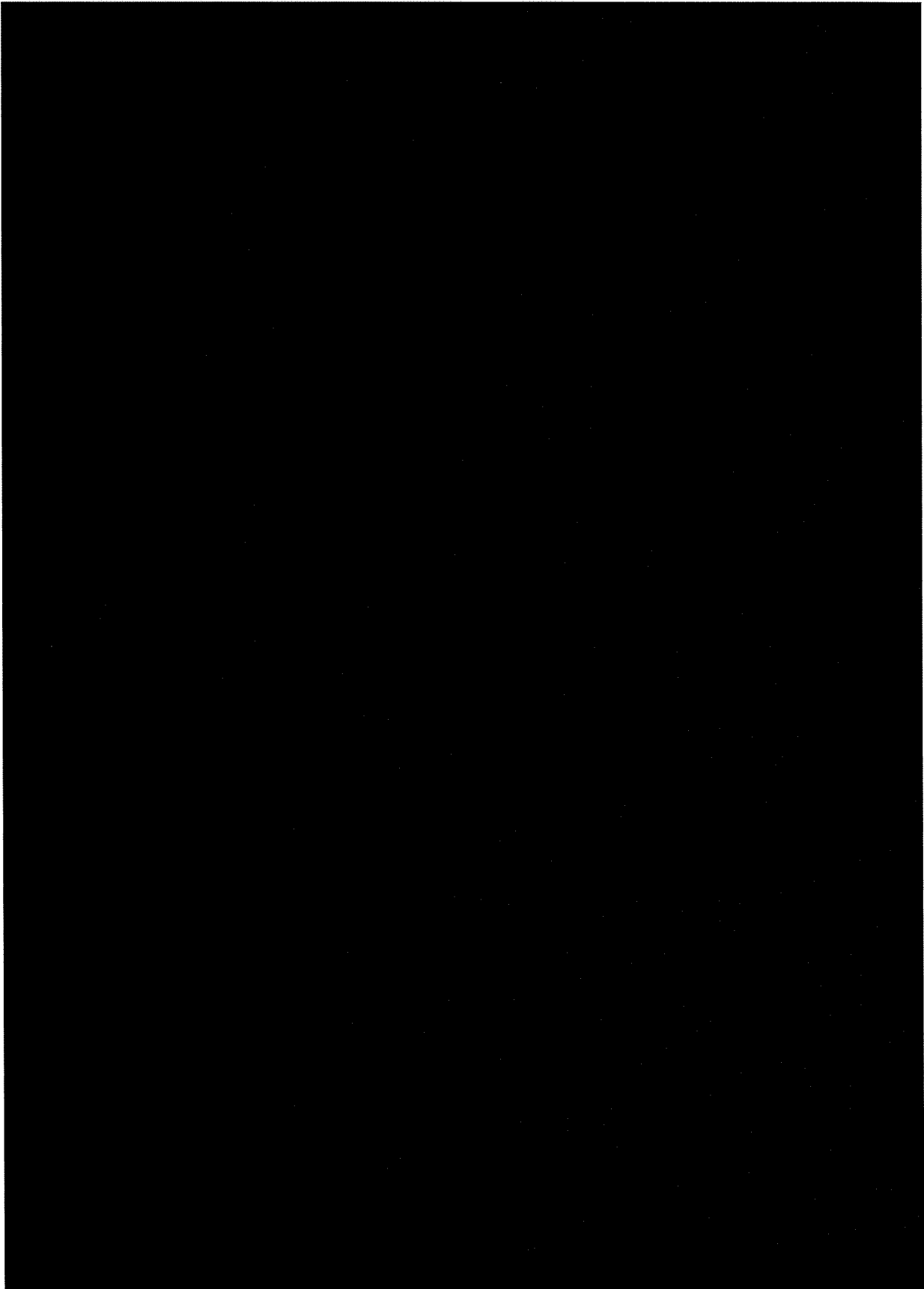
Witwind - General planning overview

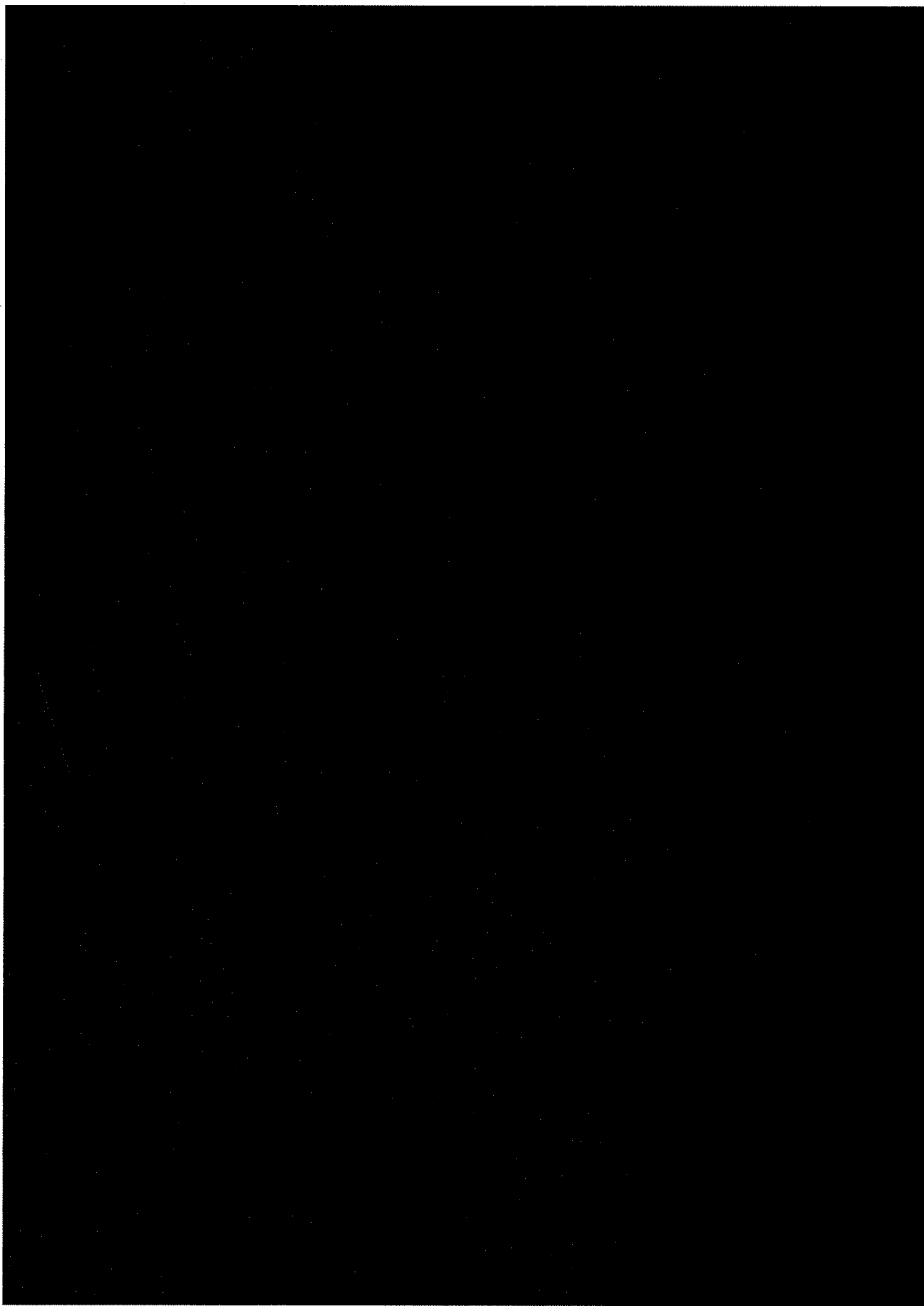
Schematic representation of the Witwind Project planning Hollandse Kust Zuid I & II



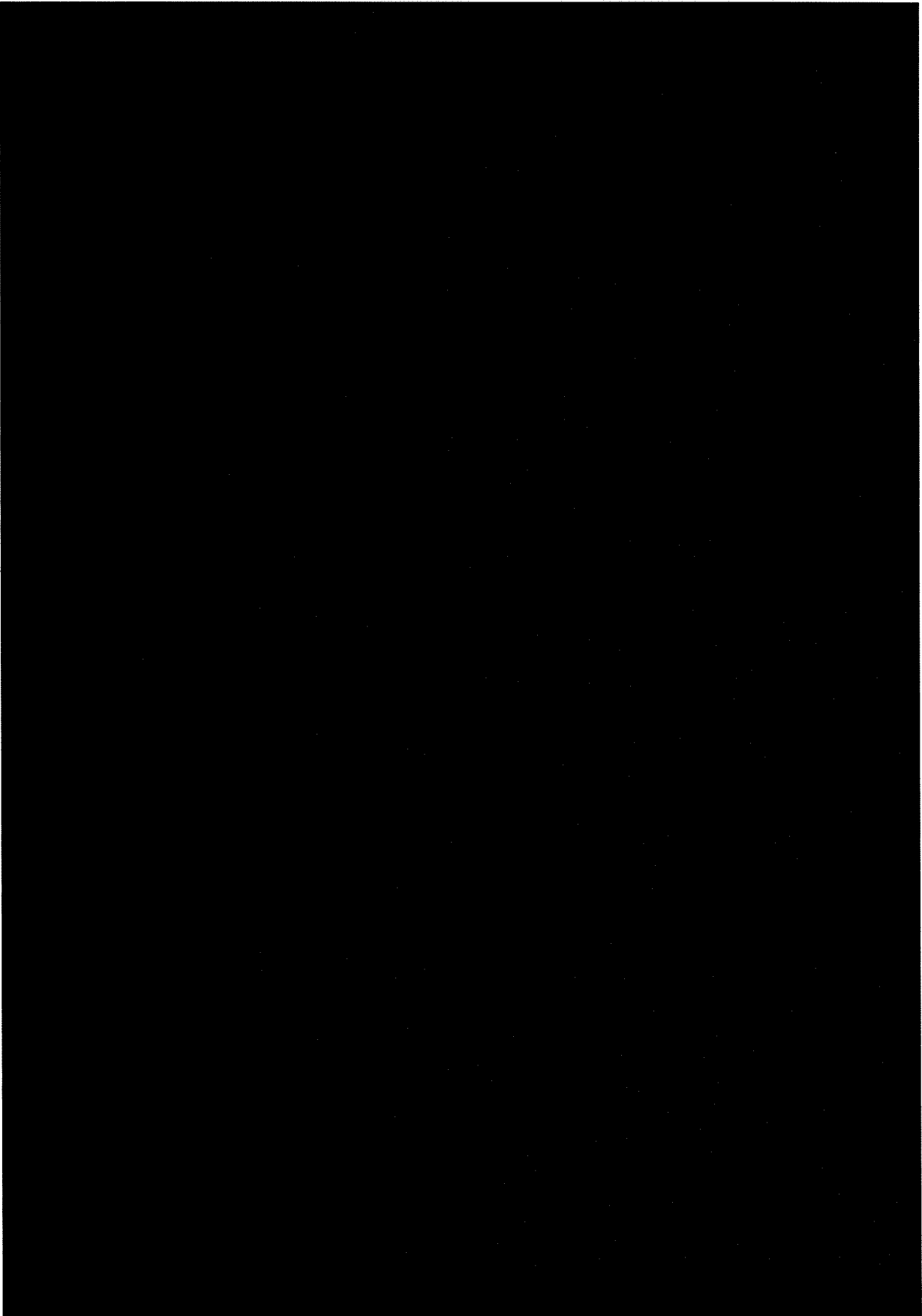


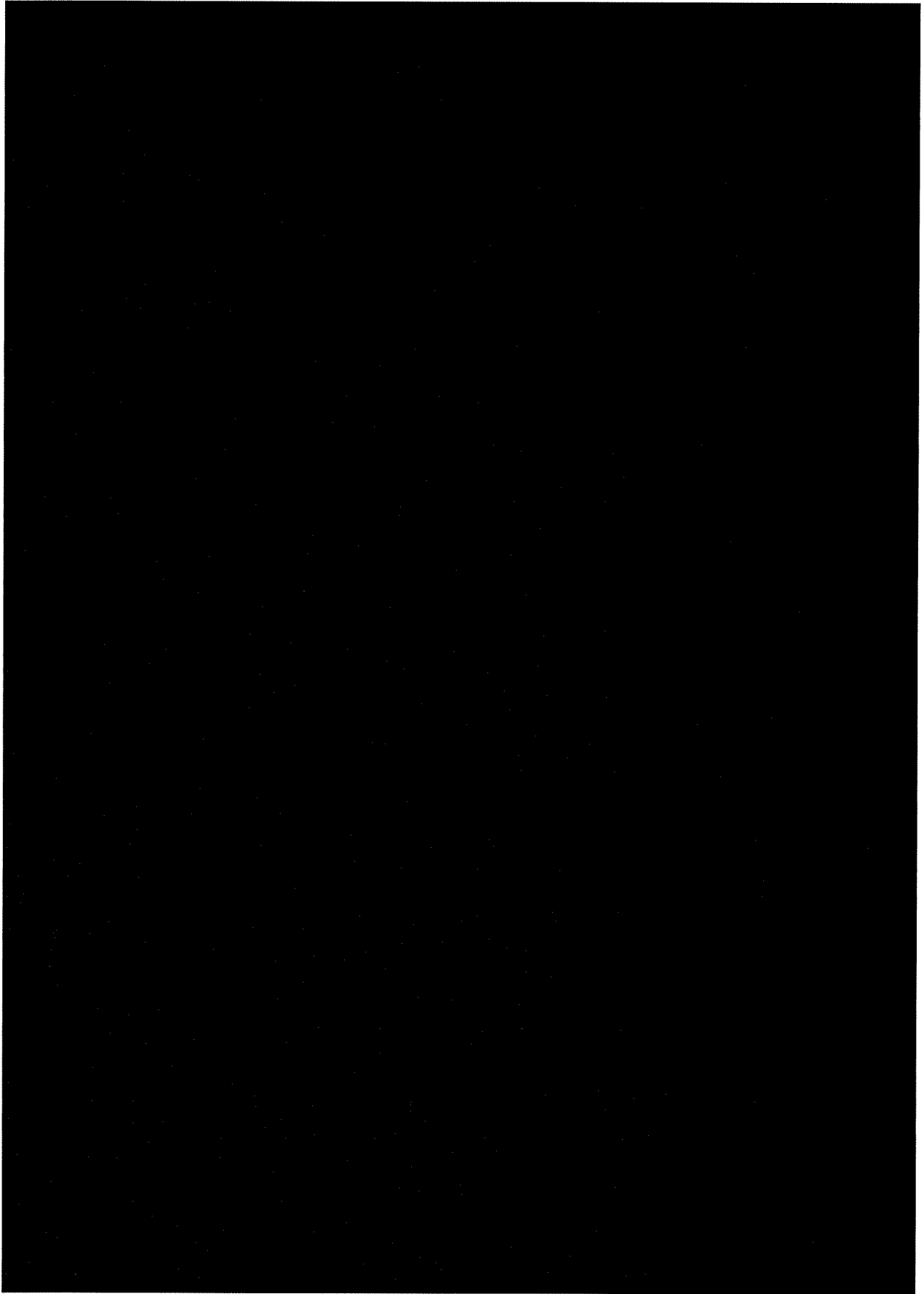
Appendix B Foundation design





Appendix C Witwind wind farm overview drawings





Appendix D Track-records

Track-record Van Oord

Project	Party	# of foundations / inter-array cables	Supply foundations	Install foundations	Supply inter-array cables	Install inter-array cables	EPC
Horns Rev ¹ (DK)	2002	80		x			
Burbo Bank (UK)	2004	25		x			
Scroby Sands (UK)	2004	30		x			
OWEZ (NL)	2006	36		x			
Arklow Bank (IE)	2007	7		x			
Prinses Amalia (NL)	2008	60	x	x	x	x	x
Lynn (UK)	2009	27		x			
Rhyl Flats (UK)	2009	25		x			
Sprogø (DK)	2009	7	x	x			
Alpha Ventus (D)	2010	12		x			
Gunfleet Sands (UK)	2010	28		x			
Horns Rev ² (DK)	2010	92	x	x			
Rodsand ² (DK)	2010	90	x	x			
Belwind ¹ (B)	2012	55	x	x	x	x	x
Walney ² (UK)	2012	50		x			
Anholt (DK)	2013	111		x			
Dan Tysk (UK)	2013	80	x	x		x	
London Array (UK)	2013	175	x	x			
Sheringham Shoal (UK)	2013	88		x			
Teesside (UK)	2013	27	x	x	x	x	x
Amrumbank (D)	2015	19		x			
Baltic ² (D)	2015	39		x			
Butendiek (D)	2015	80		x			
Luchterduinen (NL)	2015	43	x	x	x	x	x
Gemini (NL)	2016	150	x	x	x	x	x
Westermeerwind (NL)	2016	48	x	x			
Burbo Bank extension (UK)	2017	32		x			
Nordergründe (D)	2017	18		x			
Sandbank (D)	2017	72		x			
Walney extension East (UK)	2017	84		x			
Total				1,693		415	

¹⁾ Contractually, Van Oord has supplied the foundation to these projects. However, the foundations have been fabricated by other companies, like [REDACTED]

²⁾ Contractually, Van Oord has supplied the inter-array cables to these projects. However, the cables have been fabricated by other companies, like [REDACTED]

³⁾ On this project, Van Oord has installed only 19 out of the 80 foundations.

⁴⁾ On this project, Van Oord has installed only 39 out of the 80 foundations.

Track-record MHI Vestas

Historical track records - 1.4 GW installed

Our Track Record – 2.9 GW Installed 953 turbines installed across 23 projects, ~ 2.4 GW under service contract

BARROW*	United Kingdom
Country	Dong Energy
Owner	2008
Installation year	30
Number of turbines	V90-3.0 MW
Turbine type	90
MW	

NORTH HOYLE*	United Kingdom
Country	Npower Renewables
Owner	2004
Installation year	30
Number of turbines	V90-2.0 MW
Turbine type	90
MW	

KENTISH FLATS*	United Kingdom
Country	Vitality
Owner	2005
Installation year	30
Number of turbines	V90-3.0 MW
Turbine type	90
MW	

KENTISH FLATS EXT.*	United Kingdom
Country	Vitality
Owner	2015
Installation year	15
Number of turbines	V112-3.3 MW
Turbine type	50
MW	

WINDFLOT-FLOATING FOUNDATION	Portugal
Country	Windpro
Owner	2011
Installation year	1
Number of turbines	V90-2.0 MW
Turbine type	2
MW	

SCROBY SANDS	United Kingdom
Country	EDF UK
Owner	2004
Installation year	30
Number of turbines	V90-2.0 MW
Turbine type	90
MW	

ROBIN RIGG	United Kingdom
Country	EDF UK
Owner	2009
Installation year	60
Number of turbines	V90-3.0 MW
Turbine type	180
MW	

Burbo Bank Extension*	United Kingdom
Country	DONG Energy
Owner	2015-17
Installation year	32
Number of turbines	V164-4.0 MW
Turbine type	236
MW	

Nobelswind*	Belgium
Country	Pirbright
Owner	2015-17
Installation year	50
Number of turbines	V112-3.3 MW
Turbine type	165
MW	

THANET*	United Kingdom
Country	Vitality
Owner	2010
Installation year	100
Number of turbines	V90-3.0 MW
Turbine type	300
MW	

HORNS REV	Denmark
Country	Vitality & Dong
Owner	1995
Installation year	10
Number of turbines	V90-500 kW
Turbine type	5
MW	

Blyth Offshore Wind Farm*	United Kingdom
Country	EDF Energy
Owner	2017-18
Installation year	116
Number of turbines	V112-3.45 MW
Turbine type	400
MW	

Burbo Bank	United Kingdom
Country	DONG Energy
Owner	2015-17
Installation year	32
Number of turbines	V164-4.0 MW
Turbine type	236
MW	

Nobelswind*	Belgium
Country	Pirbright
Owner	2015-17
Installation year	50
Number of turbines	V112-3.3 MW
Turbine type	165
MW	

BLIGH BANK*	Belgium
Country	Bavard NV
Owner	2010
Installation year	55
Number of turbines	V90-3.0 MW
Turbine type	165
MW	

TUNØ KNOB	Denmark
Country	Npower Renewables
Owner	1995
Installation year	10
Number of turbines	V90-500 kW
Turbine type	5
MW	

Rampion*	United Kingdom
Country	E.ON
Owner	2017-18
Installation year	116
Number of turbines	V112-3.45 MW
Turbine type	400
MW	

Burbo Bank	United Kingdom
Country	DONG Energy
Owner	2015-17
Installation year	32
Number of turbines	V164-4.0 MW
Turbine type	236
MW	

Nobelswind*	Belgium
Country	Pirbright
Owner	2015-17
Installation year	50
Number of turbines	V112-3.3 MW
Turbine type	165
MW	

OFFSHORE WINDPARK Q7*	The Netherlands
Country	WP Q7 Holding B.V.
Owner	2007
Installation year	90
Number of turbines	V90-2.0 MW
Turbine type	120
MW	

MAADE*	Denmark
Country	European Energy
Owner	2016
Installation year	2
Number of turbines	V164
Turbine type	16
MW	

NORTHWIND*	Belgium
Country	Npower NV
Owner	2015
Installation year	72
Number of turbines	V112-3.0 MW
Turbine type	215
MW	

ENECO LUCHTERDUINEN*	The Netherlands
Country	Eneco & Mitsubishi
Owner	2015
Installation year	43
Number of turbines	V112-3.0 MW
Turbine type	129
MW	

KAREHAMN*	Sweden
Country	E.ON
Owner	2013
Installation year	16
Number of turbines	V112-3.0 MW
Turbine type	48
MW	

EGMOND AAN ZEE	The Netherlands
Country	Shell & Nijon
Owner	2005
Installation year	36
Number of turbines	V90-3.0 MW
Turbine type	108
MW	

SPROGØ*	Denmark
Country	Sud & Bak
Owner	2009
Installation year	7
Number of turbines	V90-3.0 MW
Turbine type	21
MW	

NORTHWIND*	Belgium
Country	Npower NV
Owner	2015
Installation year	72
Number of turbines	V112-3.0 MW
Turbine type	215
MW	

ENECO LUCHTERDUINEN*	The Netherlands
Country	Eneco & Mitsubishi
Owner	2015
Installation year	43
Number of turbines	V112-3.0 MW
Turbine type	129
MW	

KAREHAMN*	Sweden
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Owner	2005
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Installation year	43
Number of turbines	V112-3.0 MW
Turbine type	129
MW	

KAREHAMN*	Sweden
Country	E.ON
Owner	2013
Installation year	16
Number of turbines	V112-3.0 MW
Turbine type	48
MW	

EGMOND AAN ZEE	The Netherlands
Country	Shell & Nijon
Owner	2005
Installation year	36
Number of turbines	V90-3.0 MW
Turbine type	108
MW	

*Currently under service contract

Trackrecord Eneco

Wind Offshore NL	WTG supplier	WTG type	Number of WTGs	Capacity [MW]
Prinses Amalia wind farm	Vestas	V80 2.0	60	120
Eneco Luchterduinen	Vestas	V112 3.0	43	129
Total			103	249

Wind Onshore NL	WTG supplier	WTG type	Number of WTGs	Capacity [MW]
Acres	Siemens	SWT-113 2.3DD	1	2,3
Afrikahaven	Vestas	V90 3.0	9	27
Anna Vosdijk	Vestas	V90 3.0	5	15
Antoinedijk, St.	Vestas	V80 2.0	5	10
Burgervlotbrug	Vestas	V52	5	4,25
Delfzijl-Noord	Nordex	N100 3.3	19	62,7
Delfzijl-Zuid	Enercon	E-70 2.0	7	16,1
Enci	Vestas	V80 2.0	1	2
Fujifilm	Vestas	V90 2.0	5	10
Hartel III	Nordex	N80 2.5	9	22,5
Herkingen II	NEGmicon	NM80	3	8,25
Hoevensche Beemden	Vestas	V90 3.0	5	15
Houten	Vestas	V90 2.0 Grid	3	6
Kreekkraksluis	Nordex	N100 2.5	7	17,5
Kroeten, de	Vestas	V52	1	0,85
Laaksche Vaart	Vestas	V90 2.0 Grid	5	10
Laarakkerdijk	Senvion	MM100 2.0	5	10
Lopik	Vestas	V80 2.0	3	6
Luna, van	Enercon	E-70 2.3	3	7,05
Martina Cornelia	Nordex	N90 2.5	4	10
Nieuwegein	Vestas	V90 2.0	5	10
Pallandt, van	Vestas	V80 2.0	7	14
Sabinapolder	Vestas	V90 3.0	3	9
Slufter II	GE	1.5	8	12
Waalwijk	GE	1.5	5	7,5
Weststad III	Nordex	N90 2.5	6	15
Zwartenbergseweg	Vestas	V90 2.0 Grid	5	10
Total			144	340

Wind Onshore Belgium	WTG supplier	WTG type	Number of WTGs	Capacity [MW]
Arendonk	Enercon	E-82	7	16,1
Arlon	Senvion	MM100 2.0	5	10
Ciney	Nordex	N100 2.5	6	15
Eeklo	Enercon	E-82	2	6
Fosses-la-Ville	Enercon	E-82	15	30
Gouvy	Nordex	N100 2.5	5	12,5
Grand Manil	GE	1.5	4	6
Marbais	Enercon	E-82	11	22
Perwez 1	GE	1.5	5	7,5
Perwez 2	Nordex	N100 2.5	3	7,5
Pont-à-Celles	Enercon	E-82	8	16
Puurs	Enercon	E-82	2	4
Sombreffe	Repower	1.5m	2	3
Warisoulx	Enercon	E-82	5	10
Total			80	165,6

Wind Onshore UK	WTG supplier	WTG type	Number of WTGs	Capacity [MW]
Burn of Whilk	Nordex	N90 2.5	9	22,5
Lochluichart	Siemens	SWT-101	23	69
Moy	Nordex	N100 3.3	20	66
Tullo	Nordex	N80 2.5	7	17,5
Twinshiels	Nordex	N80 2.5	10	25
Total			69	200

Update 01 March 2016

Overall installed number of WTGs	396
Overall installed capacity [MW]	954,6

Track-record DGE

DGE Ltd Renewable Assets Portfolio

Assets in operation

Solar PV Tracking Portugal - Amper Central

- Ownership: DGE(34.4%), Acciona Energia (AE) (65.6%)
- Capacity: 46MW
- Site Location: Moura, Portugal
- COD: January 2009
- Technology: Monocrystalline PV Ground-mounted / 1 axis tracking system
- Remarks: One of the largest PV plant in the world with single axis tracking system (2,500 trackers are installed)
- Annual generation is expected roughly 90GWh/year

Solar PV Projects France - EDF - EN

- Ownership: DGE(50%), EDF EN France(50%)
- Capacity: Toul1 55MW / Crucey 36MW / Massangis 20MW
- Site Location: France
- COD: Various (May to September 2012)
- PPA: 20 years with EDF SA
- Technology: PV Thin Film - First Solar (CdTe)

Wind Farm Projects France - ENDF (EDF - EN)

- Ownership: DGE 50%, EDF - EN 50%
- Capacity: 72MW Total (4 wind farms)
 - Plain d'Escrebieux("PE", 12MW)
 - Seuil de Bapaume("SB", 15MW)
 - Basse Thierache Sud("BTS", 24MW)
 - Plateau d'Andigny("PA", 21MW)
- Acquisition date: 10th July, 2013
- Site Location: North France
- COD:
 - PE: 2014 June,
 - SB: 2014 July,
 - BTS: 2014 Oct,
 - PA: 2014 Nov
- Project Finance: Nord LB Lead Arranger
- PPA: 15 years with EDF O.A.
- Technology: WTG - Siemens SWT - 101 3MW for all WTGs

Offshore Wind Netherlands - Q10/LUD

- Ownership: DGE (50%), Eneco (50%)
- Capacity: 129MW
- Acquisition Date: October 2012
- Site Location: Luchterduinen, Noordwijk
- COD: mid July 2015
- Feed in Tariff: SDE Subsidy from Dutch gov't / 15yrs.
- Technology: WTG - MHI Vestas V112 - 3.0MW WTG x 43
- O&M: Eneco O&M
- EPC Contractors /Scope:
 - Vestas: WTGs
 - Van Oord: Foundations, OHVS and offshore cables
 - Joulz: Onshore cables
 - TenneT: Grid connection

Assets under construction

Solar PV Tracking Project Jordan - Shams Mann

- Ownership: DGE:35% / Nebras: 35% / Kawar:30%
- Capacity: 66.5MW (DC) / 52.5MW (AC)
- Acquisition Date: 22 June 2014
- Site Location: Jordan, Ma'an Development Area
- COD: December 2016
- Key Figures:
 - Financial Close: 20th May 2015
- Project Finance: Project Financing by JBC / Nexi / Mizuho / Standard Chattered
- PPA: NEPCO (National Electric Power Co.)
- Feed In Tariff: PPA with Government Guarantee - 14.8 cent USD / Kwh for 20 year period
- Technology: Single Axis Tracker Thin - Film Module by First Solar
- EPC/O&M: Full turnkey EPC and 14 years contract of O&M by First Solar

Assets before construction

Offshore Wind Portugal - Windfloat

- Ownership: DGE 20% / EDPR 19.4% / Repsol 19.4%, Engie - Marubeni JV 20% / Chiyoda 20% / PPI 1.2%
- Capacity: 24MW
- Acquisition Date: October 2015
- Site Location: 20km off the coast of Viana do Castelo, Portugal. Water depth of 85 - 100m
- COD: 2019 1H
- Key Figures:
 - o Subsidies from: EU(NER 300) : € 30Mil .
 - Portuguese gov't (APA) : € 6Mil (upfront)
- PPA: EDP
- Duration: 25 years
- Technology: WTG - MHI - Vestas V.164 (8.0MW)
- Foundation: Semi - Submersible floating
- O&M: EDPR
- EPC Contractors /Scope:
 - o WTG: MHI - Vestas
 - o Other Procurement is under process

Appendix E Definitions and abbreviations

Table 2: Definitions

Balance of Plant	All the infrastructural components of a wind farm and all its elements to be designed, supplied, installed and Commissioned by Van Oord, with the exception of the WTGs.
Blauwwind	The joint venture that won the Borssele-2 (site III & IV) tender
Financial Close	At Financial Close the decision is made to continue with the wind farm investment for HKZ Site I and/or II and the contracts to suppliers and installers are awarded, provided that at Financial Close the banks and equity sponsors are in agreement about all details of the business case and start the project funding for the fabrication and construction. At that time we also award the long term power offtake arrangements securing a stable revenue.
Monopile	The steel tubular pile part of the foundation that will enter the sea bed and is connected to the tower.
Project	The Witwind offshore wind farm(s) at the Hollandse Kust (Zuid) wind farm site(s) I and/or II.
Witwind	The joint venture named Witwind, which will design, supply, install, maintain, operate and decommission the Witwind wind farm(s).

Table 3 Abbreviations

ADD	Acoustic Deterrent Device
BoP	Balance of Plant
DP	Dynamic Positioning
EPC	Engineering, Procurement and Construction
FFPV	Flexible Fall Pipe Vessel
HKZWFZ	Hollandse Kust (zuid) Wind Farm Zone in the Netherlands
HKZWFS I	Hollandse Kust (zuid) Wind Farm Zone Site I, with coordinates according to the Site Decision of Site I; Stcrt-2016-67082.
HKZWFS II	Hollandse Kust (zuid) Wind Farm Zone Site II, with coordinates according to the Site Decision of Site II; Stcrt-2016-67120.
HKZ I	Hollandse Kust (zuid) Wind Farm Zone Site I, with coordinates according to the Site Decision of Site I; Stcrt-2016-67082.
HKZ II	Hollandse Kust (zuid) Wind Farm Zone Site II, with coordinates according to the Site Decision of Site II; Stcrt-2016-67120.
HLV	Heavy Lift Vessel
HSSE	Health, Safety, Security and Environment
IAC	Inter-array cable
ICCP	Impressed Current Cathodic Protection
kV	Kilo Volt
MP(s)	Monopile(s)
MW	Mega Watt
NWEA	Netherlands Wind Energy Association
O&M	Operation & Maintenance
PPA	Power Purchase Agreement
RNA	Rotor-nacelle assembly
RVO	Rijksdienst voor Ondernemend Nederland
SAA	Service and Availability Agreement
SAT	Site Acceptance Test
SCADA	Supervisory Control and Data Acquisition
TP(s)	Transition Piece(s)
TSA	Turbine Supply Agreement
TSO	Transmission System Operator
UXO	Unexploded Ordnance
WPO	Wind Park Owner Room (on offshore or onshore substation)
WTG	Wind Turbine Generator

Appendix F HSE implementation during development phase up to financial close

Strategy	Activity
1 Ensure that this HSE strategy is known by the project team	<ul style="list-style-type: none"> - meeting with the project management - presentation in team meetings - include in PES and PEP
2 Have clear HSE responsibilities for team members	<ul style="list-style-type: none"> - describe roles & responsibilities - share with the team members individually - align with HRM frameworks (as far as applicable to the project)
3 Follow a Safe by Design philosophy in all design aspects and choices	<ul style="list-style-type: none"> - identify HSE standards relevant for the design - have workshop(s) with engineers to identify HSE-critical design choices and prepare design risk assessment - keep track of critical design choices
4 Carry out risk assessment	<ul style="list-style-type: none"> - carry out, maintain and communicate a suitable project HSE risk assessment with mitigation measures in place (including relevant office 'BHV' arrangements, safe travel policy, etc). - define what 'tolerable level' for risk mitigation
5 Encourage the identification and notification of hazardous situations (also in and near the office)	<ul style="list-style-type: none"> - discuss during team meetings - include in toolbox meetings - lead by example - have easy to use reporting system
6 Describe and communicate project emergency communication lines	<ul style="list-style-type: none"> - when an incident happens, how and where to notify - if site works are being carried, make sure 24/7 duty rota is in place - alignment with shareholders emergency procedures - emergency numbers known and available
7 Built a team culture where HSE is integrated in the daily work processes	<ul style="list-style-type: none"> - each meeting will start with a safety moment - safety alerts will be shared and discussed during team meetings - roll out a preliminary safety programme consisting of a number of toolboxes designed to reduce risk acceptance behavior - define and implement project safety rules
8 Prepare and implement high standard project HSE requirements which are part of contract agreements	<ul style="list-style-type: none"> - between consortium partners - with external parties hired by the project.
9 HSE commitment	HSE steering committee / HSE leadership sessions





APPENDIX A1

Annex Verification Document

HKZ I+II

25

**RELYING ON THE PAST,
BUILDING FOR THE FUTURE**



717075
15-12-2017

VERIFICATION DOCUMENT
BID HOLLANDSE KUST ZUID I
AND II WITWIND

Witwind

Final



Postbus 579
7550 AN Hengelo
Telephone (074) 248 99 40

Title	Verification document Bid Hollandse Kust Zuid I and II Witwind
Status	Final
Date	15-12-2017
Project	717075
Client	Witwind
Authors	[REDACTED]
Release	[REDACTED] Pondera Consult

TABLE OF CONTENTS

1	Introduction	3
1.1	Scope of this report	3
1.2	WitWind CV	3
1.3	Pondera Consult BV	3
2	Site Decision Requirements	4
3	Verification Requirements	6
3.1	Introduction	5
3.2	Requirements verification	5
3.3	Conclusion	12

1 INTRODUCTION

1.1 Scope of this report

The Witwind consortium asked Pondera Consult BV to verify that their bid for site Hollandse Kust Zuid I and II fulfils the requirements of the Site Decisions. Requirement 3.1.b of the 'Regeling vergunningverlening windenergie op zee' (Staatscourant, jaargang 2017, nr. 59835) stated that the design of the wind farm has to make it plausible that the requirements of the Site Decision will be fulfilled. In this report Pondera Consult BV describes the requirements of the Site Decision in chapter 2 and gives information in chapter 3 on how Witwind fulfils these requirements.

This verification document applies to Witwind's bid for the offshore wind farm Hollandse Kust (Zuid) Site I & II. This verification document is equally effective for Site I or Site II individually.

1.2 Witwind CV

The bid is developed by Witwind CV. The Witwind Consortium consists of the Dutch companies Van Oord and Eneco, together with Diamond Generating Europe and the preferred wind turbine supplier and service partner MHI Vestas Offshore Wind.

1.3 Pondera Consult BV

Pondera Consult was founded in 2007 with the ambition to contribute to sustainable solutions to energy, climate and environmental challenges. We work with our clients towards the identification and realisation of renewable energy projects. Pondera Consult has extensive experience in the planning and development of large onshore and offshore wind energy projects.

For the wind energy area of Hollandse Kust (zuid), we prepared an Environmental Impact Assessment, Appropriate Assessment and a list of species (under the Flora & Fauna Act), on behalf of the Ministry of Economic Affairs and Climate Policy and Rijkswaterstaat.

2 SITE DECISION REQUIREMENTS

In the Site Decisions (Staatscourant 2016 nrs. 67082 and 67120, 16 December 2016), chapter 3, you will find seven requirements:

1. Concept definitions;
2. Windfarm and bandwidth;
3. The permit;
4. Mitigation measures;
5. Monitoring and evaluation program;
6. Removal;
7. Financial certainty.

Some of these requirements are subdivided into several other requirements. The following chapter describes how Witwind fulfils these requirements.

3 VERIFICATION REQUIREMENTS

3.1 Introduction

For each of the seven requirements the following table gives information how they are fulfilled. In the left column the requirements are presented. The next column presents if the requirement is fulfilled and the last column presents the evidence or declaration that it is or will be fulfilled.

3.2 Requirements verification

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
1.	Concept definitions	✓	No evidence needed.
2.	Windfarm and bandwidth		
	1. The wind farm will be situated within the contours of the coordinates listed in requirement 2.1 of the Site Decision.	✓	Map 1 and 2 (appendix of this report) show that the wind farm is located within the contours of the coordinates listed in requirement 2.1 of the Site Decision.
	2. The route of the grid connection to the Hollandse Kust (zuid) alpha platform is within the coordinates listed in requirement 2.2 of the Site Decision.	✓	Map 3 (appendix of this report) shows that the route of the grid connection to the Hollandse Kust (zuid) alpha platform is within the coordinates listed in requirement 2.2 of the Site Decision.
	3. No wind turbines will be installed in maintenance zones of Concerto 1 Segment 1 North and Circe 1 North.	✓	Map 1 and 2 show that no wind turbines will be installed in the maintenance zones of Concerto 1 Segment 1 North and Circe 1 North.
	4. The rotor blades of the wind turbines must remain completely within the contours mentioned in 2.1 and outside the maintenance zones mentioned in 2.3.	✓	Map 1 and 2 show that the rotor blades of the wind turbines remain completely within the contours mentioned in 2.1 and outside the maintenance zones mentioned in 2.3.
	5. The maximum number of turbines to be installed is 63.	✓	The number of turbines to be installed is [REDACTED] See chapter 3.2 of project plan.
	6. The maximum total swept area permitted: 1.461.542 m².	✓	The total swept area is [REDACTED] See chapter 3.2 of project plan.
	7. Only wind turbines of minimal 6 MW capacity per wind turbine are to be installed in the wind farm.	✓	The minimum nominal capacity is [REDACTED] MW per turbine. See chapter 3.2 of project plan.
	8. The minimum distance between wind turbines must be 4 times the rotor diameter expressed in metres.	✓	The minimum distance between wind turbines is at least [REDACTED] meter, or [REDACTED] times the diameter of the rotor for HKZ I and [REDACTED] meter, or [REDACTED] times the diameter for HKZ II.

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
			See chapter 3.2 of project plan. See also the appendix of this report for detailed distances.
9.	The minimum tip lowest level is 25 m above sea level (MSL).	✓	The minimum tip lowest level is [REDACTED] meter above Mean Sea Level. See chapter 3.2 of project plan.
10.	The maximum tip highest level is 251 m above sea level (MSL).	✓	The maximum tip highest level is [REDACTED] meter above Mean Sea Level. See chapter 3.2 of project plan.
11.	The cables from the wind turbines must be connected to the Hollandse Kust (zuid) alpha platform.	✓	Map 3 shows that the cables from the wind turbines are connected to the Hollandse Kust (zuid) alpha platform.
12.	The permitted foundations for the wind turbines are: monopile, tripod, jacket, gravity based and suction bucket. If the permit holder wishes to deploy a type of foundation that is not cited in this paragraph, then the environmental impact of that must be determined and submitted to the Minister of Economic Affairs and Climate Policy. The environmental impact must not exceed the limits set out in the Wind Farm Site Decision.	✓	The wind turbines are placed on monopile foundations. See chapter 3.1 and appendix B of the project plan. Therefore no additional environmental impact study is needed.
13.	If sacrificial anodes are used as cathodic protection for steel structures, then these alloys should consist of aluminium or magnesium. The alloys may contain small quantities (< 5 weight %) of other metals.	✓	Witwind declares that no sacrificial anodes will be used in the project. Protection will be provided by means of Impressed Current Cathodic Protection (ICCP) and corrosion allowance.
14.	Vessels used by or on behalf of the permit holder must take into account during their actions the presence of seals in the shallows and designated resting areas and the presence of bird concentrations. The measures cited in the Voordelta Management Plan, the Delta Water Management Plan, the Management Plan Waddenzee, and the Management Plan Noordzeekustzone must be taken into account hereby.	✓	<p>The vessels used for the project will take into account the presence of seals on the plates and designated areas as well as the presence of bird concentrations.</p> <p>To reduce the impact on fish, seals and harbour porpoises, Witwind will apply an Acoustic Deterrent Device (ADD): the Faunaguard (FG) before piling commences. This FG is applicable for a variety of different species, including marine fish, porpoises and seals: each with an own module.</p> <p>See chapter 4.4.1 of the project plan.</p>
15.	The permit holder must make demonstrable efforts to design and build	✓	Witwind will deliver an action plan for the enhancement of the sea's ecosystem to

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
	the wind farm in such a way that it actively enhances the sea's ecosystem, helping to foster conservation efforts and goals relating to sustainable use of species and habitats that occur naturally in the Netherlands. In this respect the permit holder is required to create an action plan, to be submitted to the Minister of Economic Affairs and Climate Policy no later than eight weeks before the commencement of the construction. Construction work must adhere to this plan.		<p>the Ministry of Economic Affairs and Climate Policy (or to Rijkswaterstaat in case of prolonged mandate by the Ministry of Economic Affairs and Climate Policy).</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>Witwind will proactively cooperate if the authorities plan to place a bird detection system in one of the Hollandse Kust sites. Eneco is already closely involved in the bird monitoring program of the authorities by facilitating the placement of a bird detection system at Luchterduinen, the wind farm bordering directly to HKZ. Moreover, Eneco is closely involved in the design and implementation of an effective and feasible procedure for stopping turbines/ windfarms in case of mass bird migration.</p> <p>See chapter 4.4.1</p>
16.	The permit holder must make demonstrable efforts to design, build, and operate the wind farm, while taking into account the prevailing laws, in such a manner that the wind farm actively contributes to strengthening the local and regional economy. For that purpose, the permit holder is required to create an action plan, to be submitted to the Minister of Economic Affairs and Climate Policy at least eight weeks before the commencement of the construction. The	✓	<p>When selecting subcontractors, Witwind will look for the best trade-off between quality and pricing. It is very likely that Dutch subcontractors and sub suppliers—as well as the local economy—will benefit from this project.</p> <p>The ports of [REDACTED] has been selected as the candidate for the WTG marshalling harbour and Port of [REDACTED] for the possible foundation marshalling harbour, which will house the project management, storage, and</p>

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
	work will be performed in accordance with this action plan.		onshore preparations. Based on past experiences with similar projects. Witwind expects to spend somewhere between [REDACTED] euros during the installation phase, a significant part of which flows back into local economies. Witwind will, in accordance with the Site Decision for Hollandse Kust (zuid) I & II, deliver an action plan for the contribution to the local and regional economies to the Ministry of Economic Affairs and Climate Policy (or to Rijkswaterstaat in case of prolonged mandate by the Ministry of Economic Affairs and Climate Policy). See chapter 3.1 of the project plan.
	17. During repairs to and maintenance of telecommunication cables, the number of rotations per minute per wind turbine of those wind turbines that are situated within a radius of 1,000 meter from the site of the repairs or maintenance must be reduced to less than 1.	✓	Witwind declares that the number of rotations per minute per wind turbine of those wind turbines that are situated within a radius of 1,000 meter from the site of the repairs or maintenance must be reduced to less than 1, during repairs to and maintenance of telecommunication cables. Map 4 in this report shows all relevant wind turbines within 1000m of a telecommunication cable.
3.	The permit The permit as referred to in Section 12 of the Offshore Wind Energy Act will be issued for a period of 30 years.	✓	No evidence needed.
4.	Mitigation measures		
	1. Measures for the prevention of permanent physical harm and/or effects to porpoises and seals and the mortality of fish a. the permit holder must use one or more acoustic deterrent device(s) tuned to the relevant frequencies during piling work, including half an hour before piling work starts. In its piling plan, the permit holder will outline the type of deterrent it plans to use, including supporting evidence of its proven effectiveness;	✓	Witwind declares that they take the described mitigation measures and shall create a piling plan and submit it to the Minister of Economic Affairs and Climate Policy (or to Rijkswaterstaat in case of prolonged mandate by the Ministry of Economic Affairs and Climate Policy) at least eight weeks before the commencement of the construction. The work will be performed in accordance with this piling plan and requirement 4.1 of the Site Decision.

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
	b. piling work must adopt a soft start, ensuring that porpoises are given the opportunity to swim to a safe location. The piling plan should provide details outlining the duration and power of the soft start along with supporting evidence of effectiveness.		<p>Witwind has experience with piling plans for Luchterduinen and Gemini and will use this experience for HKZ.</p> <p>Faunaguard will be used as acoustic deterrent device. Faunaguard has proven effectiveness and was used in Gemini and also in Germany and will be used in Belgium (Norther).</p> <p>See also paragraph 4.4.1 in the Project Plan.</p>
2.	Measures to prevent disturbance of porpoises, seals and fish	✓	<p>Witwind declares that they take the described mitigation measures and shall create a piling plan and submit it to the Minister of Economic Affairs and Climate Policy (or to Rijkswaterstaat in case of prolonged mandate by the Ministry of Economic Affairs and Climate Policy) at least eight weeks before the commencement of the construction. The work will be performed in accordance with this piling plan and requirement 4.1 of the Site Decision. See also paragraph 4.4.1 in the Project Plan.</p>
3.	Measures to limit collision victims amongst birds at rotor height during mass bird migration	✓	<p>Witwind declares that they take the described mitigation measures in requirement 4.3 of the Site Decision and shall create a plan and submit it to the Minister of Economic Affairs and Climate Policy (or to Rijkswaterstaat in case of prolonged mandate by the Ministry of Economic Affairs and Climate Policy) at least eight weeks before the commencement of the construction. The work will be performed in accordance with this plan and requirement 4.3 of the Site Decision.</p> <p>Witwind is well aware of the developments concerning the bird radar system that the government want to install and that a similar system will be installed as a trial at Luchterduinen. See chapter 4.2 of the project plan.</p>
4.	Measures to prevent victims of collision amongst bats at rotor level	✓	<p>Witwind declares that they take the described mitigation measures in</p>

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
			requirement 4.3 of the Site Decision and shall report in which way the measures are taken to the Minister of Economic Affairs and Climate Policy (or to Rijkswaterstaat in case of prolonged mandate by the Ministry of Economic Affairs and Climate Policy) within 2 months after September 30th.
	5. Measures to protect archaeology and cultural history	✓	<p>Witwind declares that they take the described mitigation measures in requirement 4.5 of the Site Decision and will do the necessary research. Witwind will report the results of the research to the Minister of Economic Affairs and Climate Policy (or to Rijkswaterstaat in case of prolonged mandate by the Ministry of Economic Affairs and Climate Policy) no later than 3 months prior to start of construction.</p> <p>Witwind is well aware of the way in which this requirement has to be filled in, because Witwind has already consulted the Rijksdienst voor Cultureel Erfgoed and Rijkswaterstaat for wind farm Borsele III / IV about the design of the wind farm.</p> <p>The layout (place of foundations and routing infield cables) is such that they are positioned outside the 100-meter influence zone with respect to (potential currently known) archaeological sites.</p> <p>All operations related to the seabed only commence once the offshore site has been cleared of any UXOs which could cause a risk for these operations. Witwind will take all measures required to protect archaeology and cultural history.</p> <p>See chapter 4.4 of the project plan.</p>
	6. Measures to reduce nuisance from lighting of the wind farm.	✓	Witwind declares that they take the described mitigation measures in requirement 4.6 of the Site Decision to reduce nuisance from lighting of the wind farm, i.e. no flashing red lights and decreasing light intensity during good

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
			visibility conditions. This will be in conformity with the policy measures taken by the Ministry of Infrastructure, Public Works and Water Management as a consequence of the discussions with Blauwwind and Orsted.
	7. The licensee is obliged to cooperate with the placement of a (radar) system that can detect the vessels movements in and around the wind farm.	✓	Witwind declares that they will cooperate with the placement of a (radar) system according to requirement 4.7 of the Site Decision.
5.	Monitoring and evaluation program		
	1. The Minister of Economic Affairs and Climate Policy has a monitoring and evaluation program. The permit holder will cooperate in the implementation of this program to a reasonable extent, without financial compensation. In doing so, the safety regulations applicable in the wind farm will be taken into account.	✓	In the wind farms Luchterduinen and Prinses Amalia Wind Farm this consortium already cooperates in the implementation of the monitoring and evaluation program. See also chapter 4.4 of the project plan. Witwind declares that they will contribute to the monitoring and evaluation program in a reasonable extent without financial compensation according to requirement 5.1 of the Site Decision. Safety regulations applicable in the wind farm will be taken into account.
	2. The Minister of Economic Affairs and Climate Policy will publish the data generated by the monitoring and evaluation program.	✓	No evidence needed.
	3. The permit holder will cooperate in the implementation of the monitoring and evaluation program as follows: <ul style="list-style-type: none"> • providing access to the wind farm for vessels conducting monitoring and evaluation work; • enabling the attachment of equipment such as cameras and bat detectors to/on (parts of) the wind turbines; • enabling the attachment of radar equipment to/on (parts of) the wind turbines; • enabling the attachment of measurement equipment (for example measurement buoys, C-PODs, etc.) within the wind farm; • making available bandwidth on the data cable. 	✓	Witwind declares that they will cooperate in the implementing of the monitoring and evaluation program, according to requirement 5.3 of the Site Decision. Witwind has the experience and sees the importance of an early involvement in the monitoring and evaluation program, so that optimal design can be made on installation equipment.

#	Requirement	Fulfilled ✓ or ✗	Evidence and/or declaration
6.	Decommissioning		
	1. After the power generation operations have stopped the permit holder will dismantle and remove all elements of the wind farm within two years at the latest, but always within the term of validity of the permit.	✓	Witwind declares that they dismantle and remove (decommission) the wind farm within two years after the power generation operation have stopped and decommissioning will be completed within the term of validity of the permit. Decommissioning is mentioned in paragraph 6 of appendix 1: Project Plan and is set at [REDACTED] is well within the 30 year limit of the permits.
7.	Financial security		
	1. At the latest at the moment of given proof of produced electricity by the means of so-called Guarantees of Origin (Garanties van Oorsprong), the permit holder will guarantee the removal of the wind farm by means of a bank guarantee for the State in the amount of €120,000 per MW installed.	✓	As per tender regulations, a decommissioning reserve will be kept by the Consortium for the decommissioning of the wind farm. See chapter 6 of the project plan. Witwind declares that the decommissioning reserve will comply with all regulations as mentioned in paragraph 7.1, 7.2 and 7.3 of the Site Decisions.
	2. The permit holder will annually increase the amount referred to under 7.1 by 2% as a consequence of indexation during a period of 12 years after the issue of the bank guarantee.	✓	See 7.1
	3. After operating for a period of 12 years, operating for a period of 17 years, and 1 year before the date of removal, the permit holder will request the Minister of Economic Affairs and Climate Policy to redetermine the amount referred to under 7.1 and its indexation.	✓	See 7.1

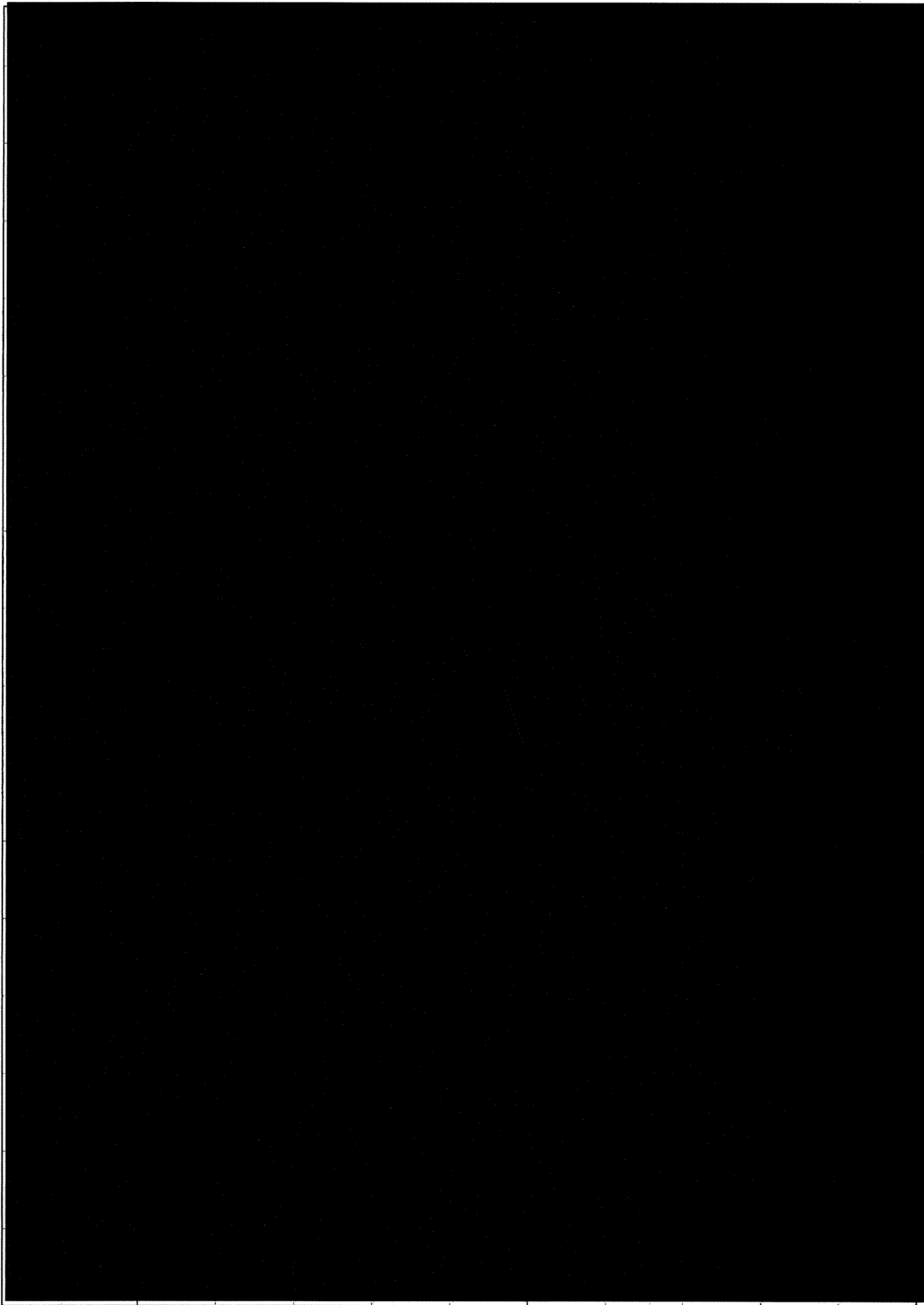
3.3 Conclusion

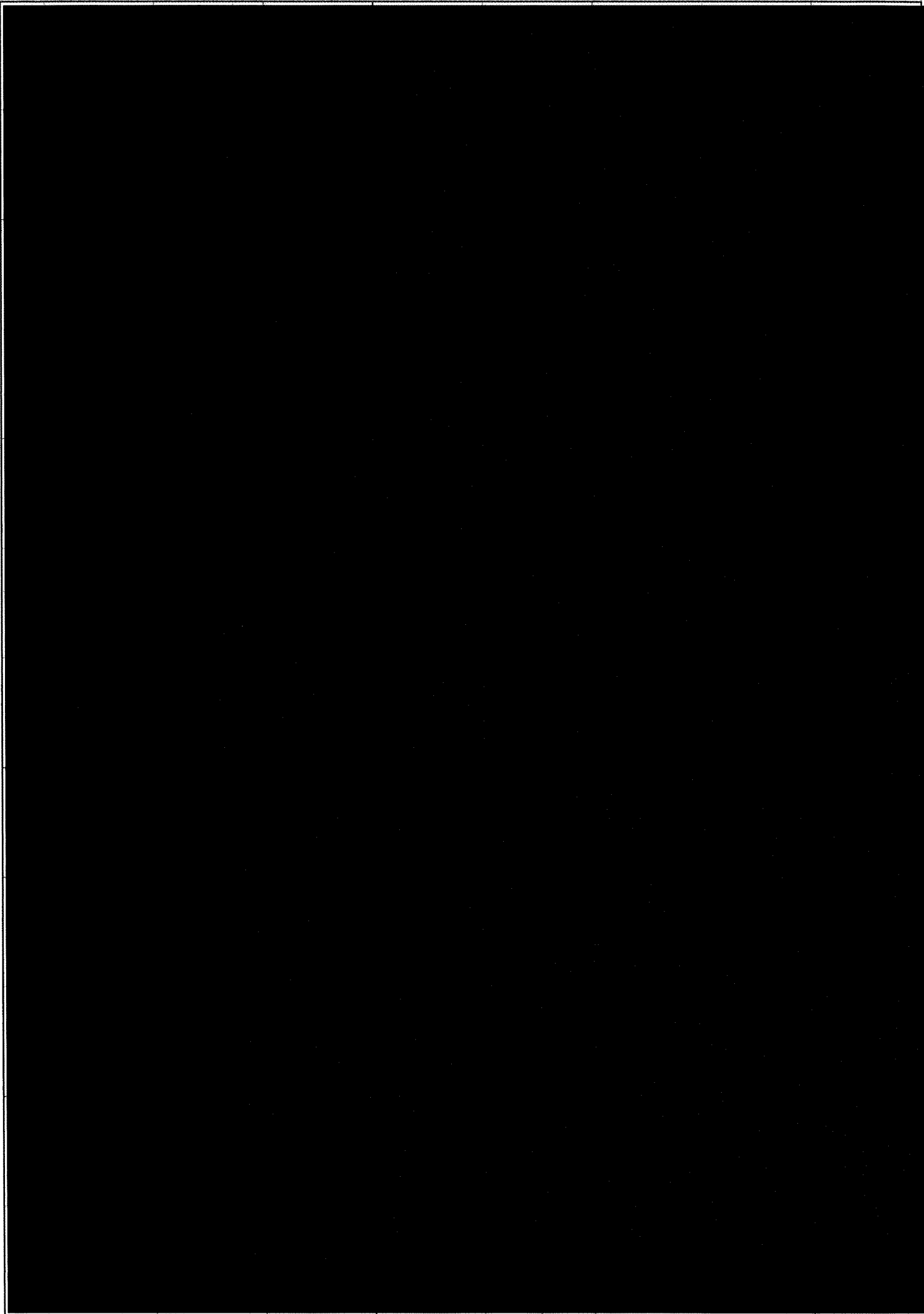
Witwind CV complies with all of the requirements of the Site Decision of Hollandse Kust (Zuid) I and II. Pondera Consult also confirms that in accordance with the ministerial regulation of 13 October 2017 (nr. WJZ/17122295):

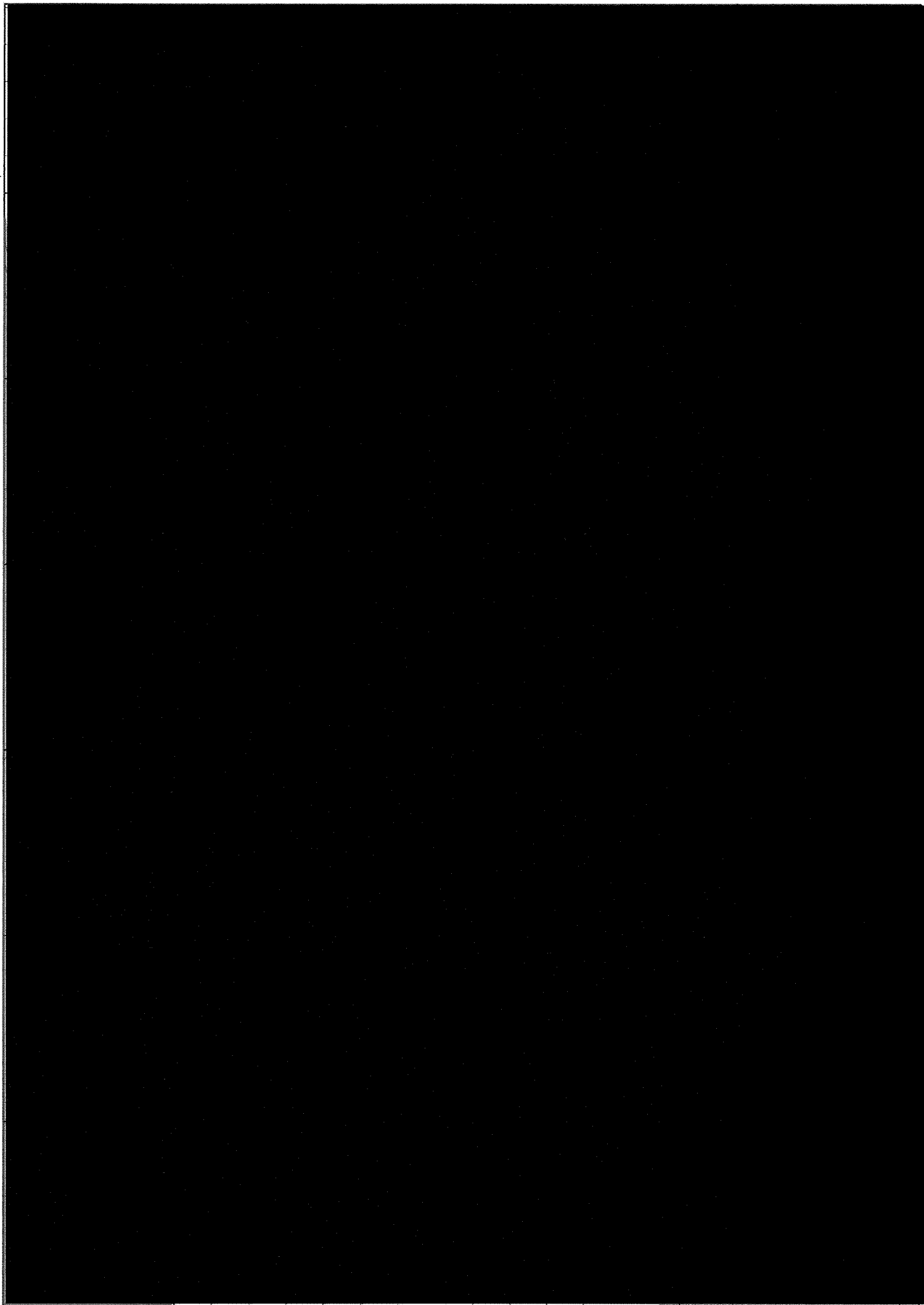
1. The documents of Witwind CV make it plausible that the applicable Water Decree is complied with;
2. The documents of Witwind CV make it plausible that the statement, referred to in Article 6.16d, first paragraph, under c, of the Water Decree can be submitted in time.

APPENDIX







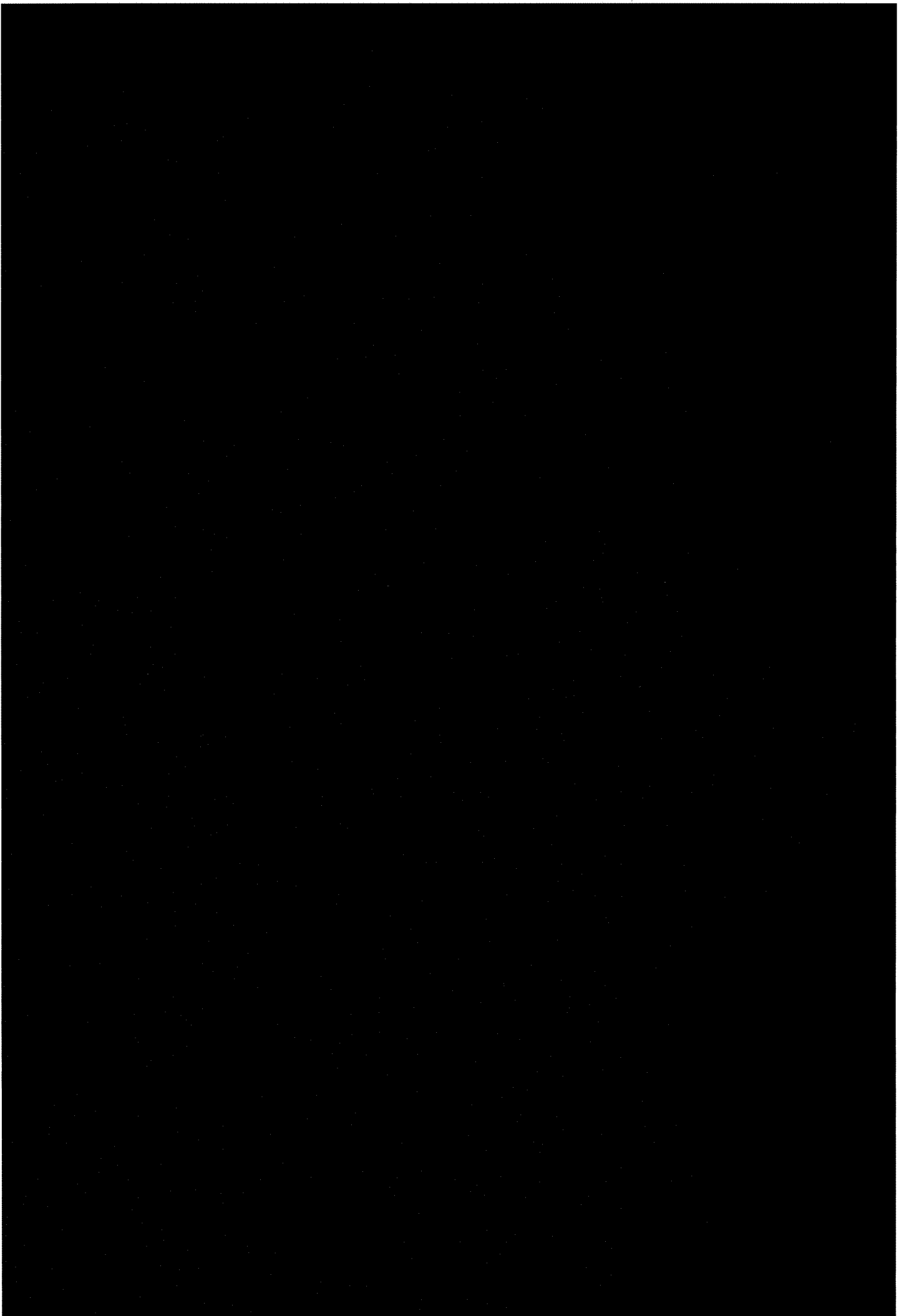


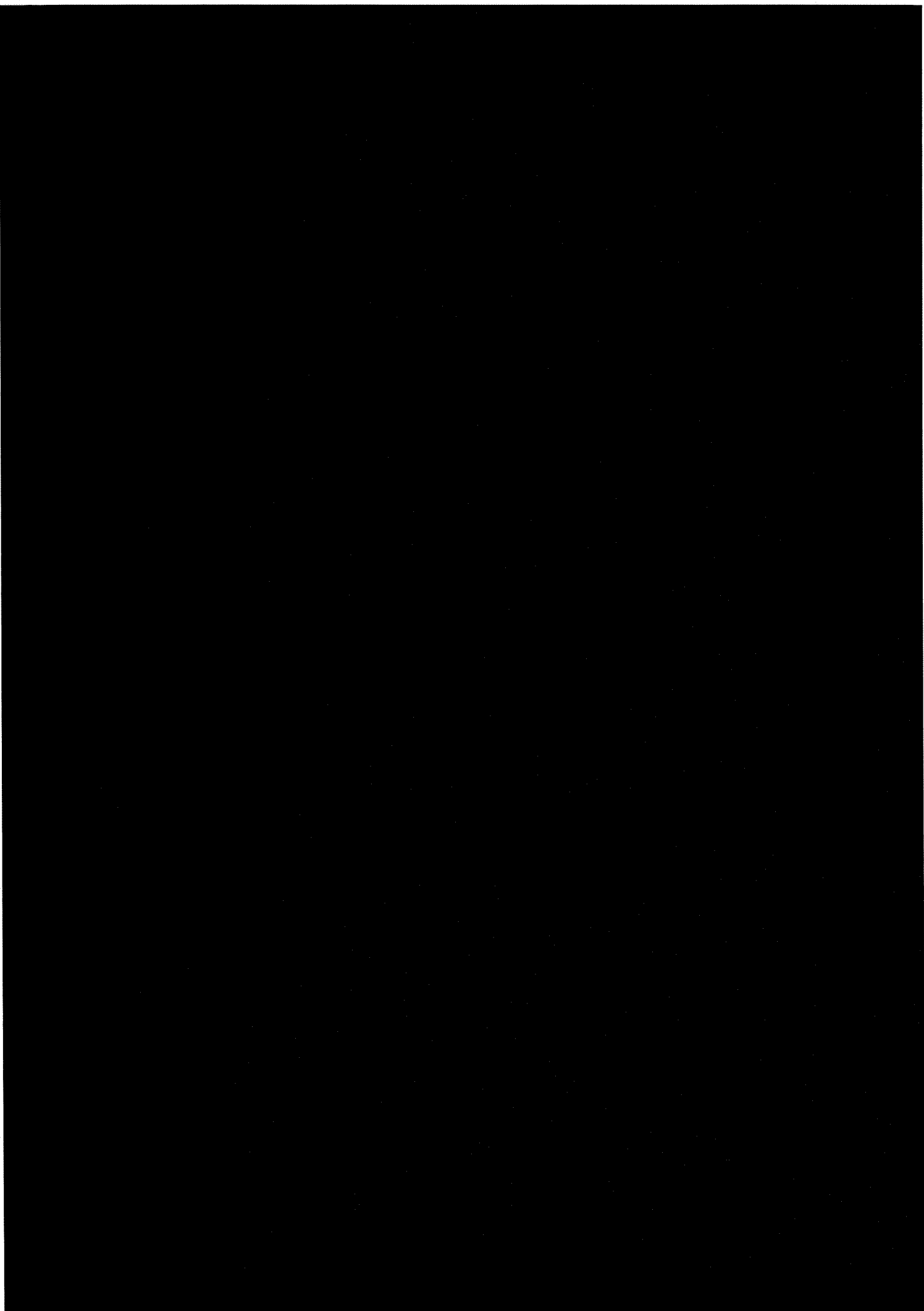
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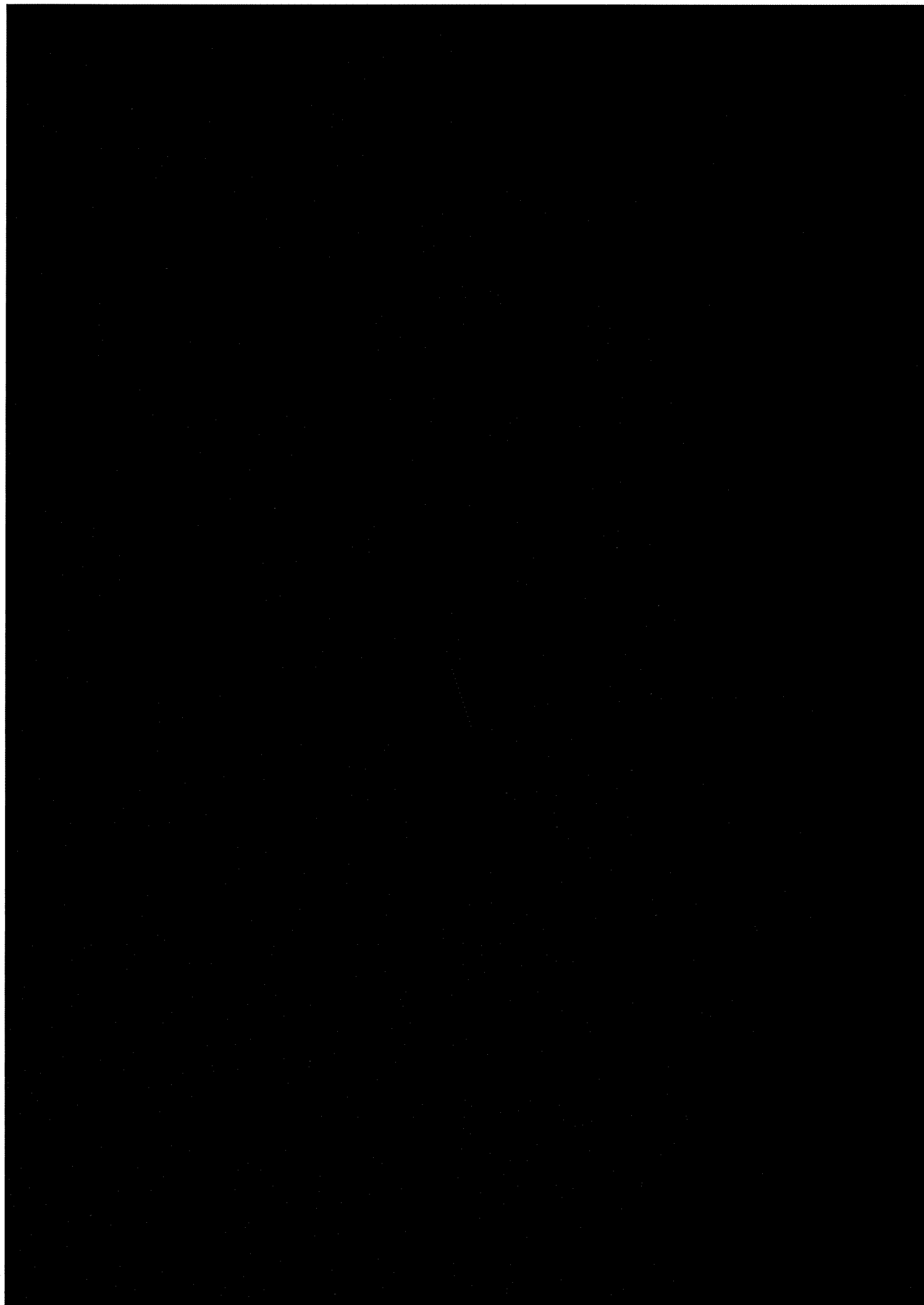
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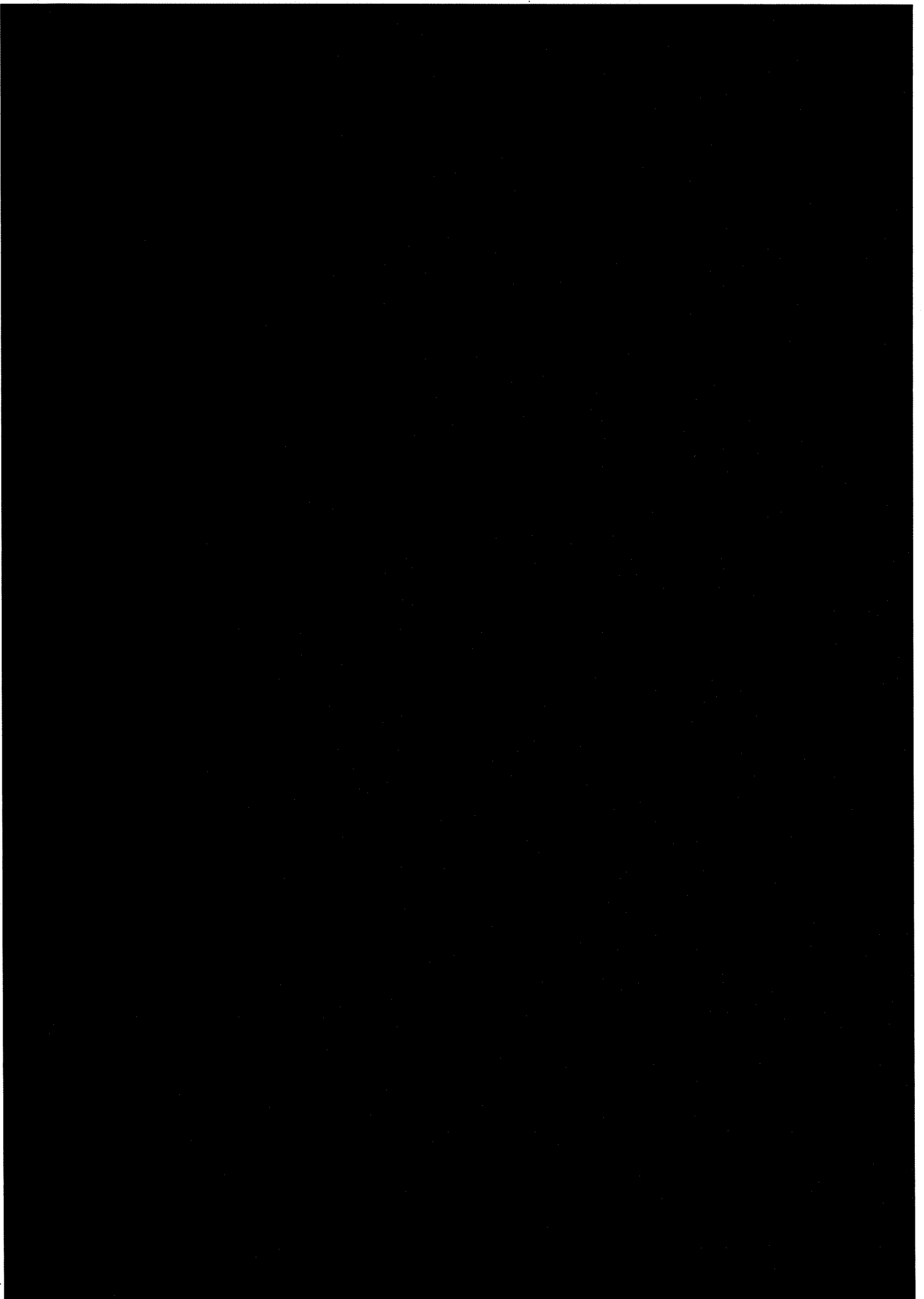
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565













APPENDIX 8

Overview of Knowledge
and Experience (A)

HKZ I

**RELYING ON THE PAST,
BUILDING FOR THE FUTURE**

The knowledge and experience of the parties involved



Consortium's total track record	Realised
Offshore wind farm (OWF) projects managed	849 MW (operational) 1,102 MW (developed, but not yet operational)
OWF Foundations supplied	567
OWF Foundations installed	1,693
OWF Wind turbines supplied	953
OWF Wind turbines installed	953
OWF Inter array cables supplied	969
OWF Inter array cables installed	415
OWF operated and maintained	249 MW (operated) 2,388 MW (maintained)

Requirements index

Table A 1: Quality criteria for the knowledge and experience of the parties involved

A The knowledge and experience of the parties involved				Source
1	The knowledge and experience of the parties responsible for project management	These parties have been responsible for the project management of offshore wind farms	These wind farms have a joint capacity of less than 25 MW These wind farms have a joint capacity of 25 MW or more	A.1 (p. 5)
2	The knowledge and experience of suppliers of the foundations	These parties have supplied foundations for offshore wind farms	Fewer than 10 foundations have been supplied Ten or more foundations have been supplied	A.2 (p. 6)
3	The knowledge and experience of installers of the foundations	These parties have installed foundations for offshore wind farms	Fewer than 10 foundations have been installed Ten or more foundations have been installed	A.3 (p. 7)
4	The knowledge and experience of suppliers of the wind turbines	These parties have supplied wind turbines for offshore wind farms	Fewer than 10 wind turbines have been supplied Ten or more wind turbines have been supplied	A.4 (p. 7)
5	The knowledge and experience of wind turbine installers	These parties have installed wind turbines for offshore wind farms	Fewer than 10 wind turbines have been installed Ten or more wind turbines have been installed	A.5 (p. 8)
6	The knowledge and experience of supplier of the cables which connect the individual wind turbines and link them to the platform	These parties have supplied cables which connect individual wind turbines and link them to an offshore platform	Cables supplied for the connection of fewer than 10 wind turbines to a platform Cables supplied for the connection of 10 or more wind turbines to a platform	A.6 (p. 8)
7	The knowledge and experience of installers of the cables which connect the individual wind turbines and link them to the platform	These parties have installed cables which connect individual wind turbines and link them to an offshore platform	Cables installed for the connection of fewer than 10 wind turbines to a platform Cables installed for the connection of 10 or more wind turbines to a platform	A.7 (p. 9)
8	The knowledge and experience of the parties responsible for maintenance and operation of the wind farm	These parties have been responsible for the maintenance and operation of offshore wind farms	Experience of maintaining and operating offshore wind farms with a joint capacity of less than 25 MW Experience of maintaining and operating offshore wind farms with a joint capacity of 25 MW or more	A.8 (p. 10)

A.0 Introduction

The project is developed by Witwind CV, in which Eneco, Diamond Generating Europe and Van Oord are limited partners. MHI Vestas Offshore Wind has been selected as partner for the supply and installation of the wind turbine generators (WTGs). We capture all disciplines required to develop, fund, construct and operate HKZ. Together, we have strong roots in the Dutch economy and the Dutch industrial tradition.

Both MHI Vestas and Van Oord have issued a support letter, which can be found in annexes A-9 and A-10 respectively. A summary of the consortium's track record can be found on the title page of this chapter.

A The knowledge and experience of the parties involved

Eneco	Eneco Groep N.V. ("Eneco"), is a leading energy company with activities across Europe, focussing predominantly on renewable energy. In its domestic market, it is a developer, generator, offtaker and supplier of gas, electricity, heating and cooling to consumers and businesses. Eneco plays a retail energy supplier role in Belgium and Germany; it has gas storage in Germany, and is a generator in Belgium, the UK and France.
	Further Eneco is the market leader in the Netherlands relating to corporate PPAs and has entered into some nameplate corporate PPAs with the Dutch railways (NS), Google and Schiphol Group.
	Eneco is fully owned by 53 Dutch municipalities. Early 2017, after the divestment of Stedin Holding N.V., a consultation process was initiated to investigate the wish of the existing shareholders to maintain their shareholding in Eneco. In that consultation the majority of the shareholders expressed the wish to sell their shares, which launched the preparations for a privatization process. Eneco emphasized the importance that the existing strategy for sustainable energy is continued, and that such is warranted in the privatization process. In that respect Eneco made arrangements with the existing shareholders that certain conditions shall apply to a potential transaction with buyers or investors, including the conditions (i) that such buyers or investors shall continue the sustainable strategy and (ii) that such buyers or investors shall safeguard the continuity and stability of Eneco. This agreement was made to ensure that Eneco will be able to continue its renewable strategy and sustainable reputation upon the privatization of the company. As such Eneco remains fully committed to invest in renewable energy projects in its target markets, also in the longer run.
	Eneco has a keen focus on the realisation and operation of both onshore and offshore wind farms, with an installed base of 742 MW of onshore and 249 MW of offshore wind.
	Eneco is sole owner, operator and offtaker of the 120 MW Prinses Amalia offshore wind farm and a 50% shareholder in the 129 MW Luchterduinen offshore wind farm with additional involvement as offtaker and operator.
	Eneco is a 25% shareholder in the 370 MW Norther offshore wind farm –currently under construction– with additional involvement as offtaker.
	Eneco is a 20% shareholder in the 731.5 MW Blauwwind (Borssele sites III&IV) offshore wind farm –planned operational date 2020– with an additional involvement as offtaker.

Diamond Generating Europ	DGE is a wholly owned subsidiary of Mitsubishi Corporation, a major Japanese conglomerate rated A by S&P and A2 by Moody's.
	DGE is an independent power producer focusing on new energy resources with investments in Europe, the Middle East and Africa, where it has made significant investments in offshore and onshore wind, solar-PV and combined cycle gas fired power plants.
	The company contributes significant financial investment and offshore wind experience to the project. DGE owns a 50% stake in a large onshore wind farm in France, 50% in offshore wind farm Luchterduinen (129 MW), 20% in Windfloat, an offshore wind farm in Portugal (25 MW), 25% in the Norther offshore wind farm in Belgium (370 MW) and 30% in the project Blauwwind in the Netherlands (731.5 MW).
Van Oord	Van Oord is a Dutch family-owned company with over 150 years of experience as an international marine contractor. Van Oord thinks and acts with responsibility and focus on the long term.
	In 2002, Van Oord started in offshore wind with the foundation and WTG installation of Horns Rev 1. Since then Van Oord has worked on around 30 offshore wind projects including five where the company acted as BoP EPC contractor.
	In 2014, Van Oord took over the offshore wind activities from Ballast Nedam, including the foundation installation vessel Svanen, and in 2016 Van Oord acquired the offshore wind activities from Bilfinger.
	Van Oord has all dedicated purpose-built vessels and equipment available in its fleet to install an offshore wind farm.
	Van Oord also invested in a minority equity stake in the Gemini project, Deutsche Bucht and in Blauwwind, and participated in development of these projects to enhance the project financeability for these projects.
	Van Oord has a solid pipeline of future offshore wind projects, including EPC contracts for the balance of plant of [REDACTED]
MHI Vestas	MHI Vestas is a joint venture between Vestas Wind Systems A/S 50% and Mitsubishi Heavy Industries 50% founded in April 2014. However MHI Vestas can draw from over 10 years of experience of Vestas Wind Systems.
	The company's sole focus is to design, manufacture, install, commission and service wind turbines for the offshore wind industry.
	MHI Vestas has installed 2.9 GW of capacity constituting almost 1,000 wind turbines at more than 20 offshore wind farms. Furthermore, MHI Vestas currently provides maintenance for 2.4 GW of capacity.

1) The pipeline includes projects under construction, conditional and unconditional orders and projects where MHI Vestas has been appointed preferred supplier. [REDACTED]

Together	Next to the individual experience, the sponsors also have a strong relationship working together.
	This cooperation started more than a decade ago, with the signing of the construction contracts for the construction of the Prinses Amalia wind farm.
	The cooperation continues in the Luchterduinen and Norther offshore wind farms, which are (being) built by Van Oord and MHI Vestas and are owned by Eneco and DGE.
	Most recently, Van Oord, MHI Vestas, Eneco and DGE have jointly developed the Blauwwind offshore wind farm.
	Van Oord and MHI Vestas have constructed three offshore wind farms with the same two-contract set-up as anticipated for Witwind, with a further six offshore wind farms on which they have both worked in a different set up.
	Eneco and Mitsubishi Cooperation are joint owner of a large battery project in Germany, which is currently under construction.

A.1 The knowledge and experience of the parties responsible for project management

Witwind CV will manage the project during development, construction, operation and decommissioning. The project will be mainly staffed with experienced employees from the sponsors, and managed by an independent project director. Where very specific knowledge is unavailable from the sponsors, the project hires or will hire best-in-class advisors and consultants. The three sponsors have a long experience in developing, constructing and operating offshore wind farms, including three of the four operational offshore wind farms in the Netherlands (Prinses Amaliawindpark, Luchterduinen and Gemini), with a combined capacity of 849 MW.

Table A 2: Requirements summary

Criteria	Requirement	Witwind
Projects managed	>25 MW	849 ²⁾

In addition, sponsors have successfully developed the Blauwwind (Borssele sites III & IV) offshore wind farm, which will be constructed in 2020, and the Belgian offshore wind farm Norther, which will be operational in 2019.

2) Only projects that are currently operational.

Next to the direct offshore wind experience, Witwind's sponsors have ample experience in developing, constructing and operating large scale power plants, as stated in table A-1.

More specific, since the construction and exploitation of Hollandse Kust Zuid sites I & II is subject to specific conditions laid down in the site decisions (kavelbesluiten) and Water Decree, the consortium partners that are participating in Blauwwind, have gained valuable experience in complying with the conditions in respect of construction, operating, nature building, economy enhancement, ecology and archaeology conditions as prescribed by the site decisions and Water Decree.

Table A 3: Summary of projects managed

D = Development phase, C = Construction phase, O = Operational phase

Project	MW	Party	Project management role	Completion year
Prinses Amalia	120	Eneco	D, C, O	2008
Gemini	600	Van Oord	D, C	2015
Luchterduinen	129	Eneco	D, C, O	2015
Operational	849			
Norther	370	Eneco DGE	D, C, O	2019
Blauwwind	731.5	Eneco DGE Van Oord MHI Vestas	D, C, O	2020
Future	1101.5			

A.2 Foundation supplier

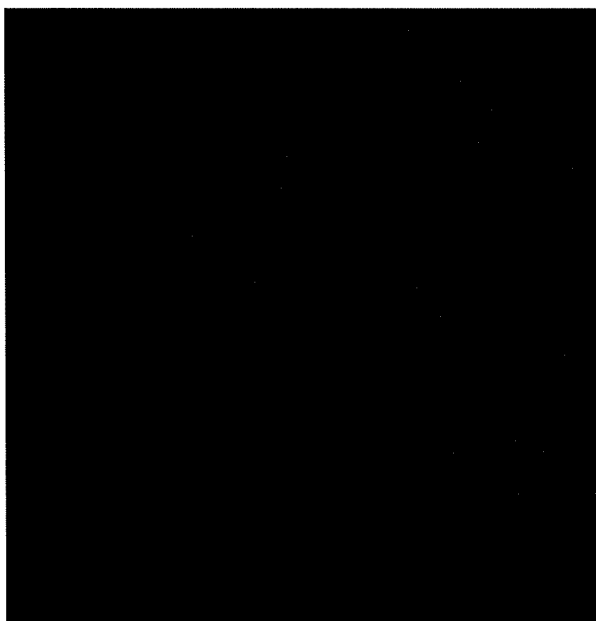
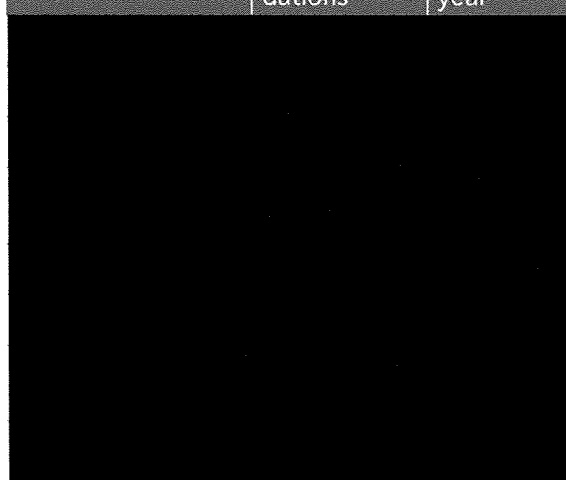


Table A 4: Requirements summary foundation supply

Criterion	Requirement	Witwind
Foundation supplies	>10	567

Table A 5: selected experience foundation supply

Project	# of foundations	fabrication year
		

A full overview of foundation supply experience can be found in annexes 

3) MP = monopile, TP = transition piece

A.3 Foundation installer

Van Oord will install the foundations

Van Oord has successfully installed 1,693 foundations on more than 30 projects. Table A-7 shows a selection of the foundation installation experience of Van Oord.

Table A 6: Requirements summary

Criterion	Requirement	Witwind
Foundations installed	>10	1,693

Please see annexes A-7 and A-8 for reference letters of two project owners on the scope of work executed by Van Oord.

Table A 7: Selected experience foundation installation

Project	Party	# of foundations	Installation year
Prinses Amalia (NL)	Van Oord	60	2006
Teeside (UK)	Van Oord	27	2012
Gemini (NL)	Van Oord	150	2014
Luchterduinen (NL)	Van Oord	43	2015
Burbo Banks Extension (UK)	Van Oord	32	2016
Walney extension (UK)	Van Oord	87	2017

A full overview of Van Oord's foundation installation experience can be found in annex A-2.

A.4 Wind turbine supplier

The WTGs will be supplied by MHI Vestas. MHI Vestas has supplied 953 WTGs to 23 offshore wind projects. Table A-9 shows a selection of the WTGs supplied by MHI Vestas.

Table A 8: Requirements summary WTG supply

Criterion	Requirement	Witwind
# of WTGs supplied	>10	953

Table A 9: Selected experience WTG supply

Project	Party	# of WTGs	WTG type	Installation year
Prinses Amalia (NL)	Vestas	60	V80-2 MW	2007
Northwind (B)	Vestas	72	V112-3 MW	2014
Luchterduinen (NL)	MHI Vestas	43	V112-3 MW	2015
Burbo Bank extension (UK)	MHI Vestas	32	V164-8 MW	2016
Walney extension West (UK)	MHI Vestas	40	V164-8 MW	2017

A full overview of wind turbine supply experience can be found in annex A-1.

A.5 Wind turbine installation

The WTGs will be installed by MHI Vestas, whereby [REDACTED] MHI Vestas has installed almost 1,000 WTGs on more than 20 offshore wind projects. For a full overview of references, see annex A-1.

In 2014 MHI Vestas was incorporated as a 50/50 joint venture between Vestas and MHI. All offshore wind activities from Vestas were transferred to MHI Vestas.

Table A 10: Requirements summary WTG installation

Criterion	Requirement	Witwind
# of WTGs installed	>10	953

Table A 11: Selected experience WTG installation

Project	Party	# of WTGs	WTG type	Installation year
Prinses Amalia (NL)	Vestas	60	V80-2 MW	2007
Northwind (B)	Vestas	72	V112-3 MW	2014
Luchterduinen (NL)	MHI Vestas	43	V112-3 MW	2015
Burbo Bank extension (UK)	MHI Vestas	32	V164-8 MW	2016

A.6 Cable supplier

Inter array cable supply and installation are in the scope of the Van Oord balance of plant Engineering, Procurement and Construction contract (EPC contract). However, Van Oord will not fabricate the cables themselves, but will subcontract that activity to a third party. Van Oord has [REDACTED] For this project, [REDACTED] are the preferred suppliers. [REDACTED] has fabricated and supplied close to [REDACTED] inter array cables to [REDACTED] offshore wind projects; [REDACTED] more than [REDACTED] cables to [REDACTED] projects. Table A-13 shows a selection of the experience of the cable supply of [REDACTED]

Table A 12: Requirements summary cable supply

Criterion	Requirement	Witwind
Cables supplied	>10	969

Table A 13: selected experience cable supply

Project	# of cables	Fabrication year
[REDACTED]		

A.7 Cable installer

Van Oord will install the inter array cables with the Nexus, a vessel owned and operated by Van Oord. Van Oord has successfully installed more than 400 cables on 6 projects. Table A-15 shows a selection of the cable installation experience of Van Oord.

Table A 14: Requirements summary cable installation

Criterion	Requirement	Witwind
# of inter array cables installed	>10	415

Table A 15: selected experience cable supply

Project	Party	# of cables	Installation year
Prinses Amalia (NL)	Van Oord	60	2006
Luchterduinen (NL)	Van Oord	43	2014
Gemini (NL)	Van Oord	150	2015

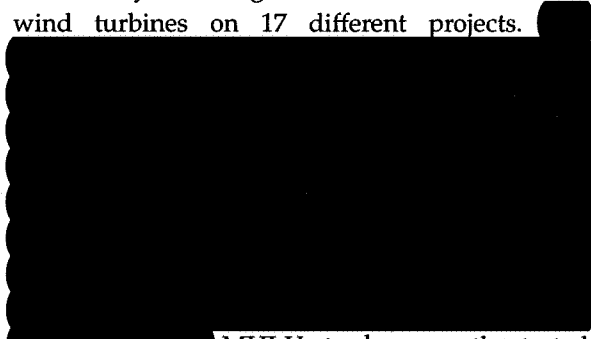


The Nexus was inaugurated in 2015, and its first job was the cable installation on the Gemini wind farm. A full overview of Van Oord cable lay experience can be found in annex A-2.

A.8 Operations and maintenance

The project will be owned and operated by Witwind. Witwind's partner and sponsor Eneco has almost 10 years experience in operating the Prinses Amaliawindpark, and 2 years on Luchterduinen. Valuable, and sometimes expensive, lessons have been learnt and these lessons will be applied in the design, construction and operations of HKZ I and/or II as well. Witwind's owners will gain experience on operating two more offshore wind farms (Blauwwind and Northor) before Witwind will enter into operation.

MHI Vestas will maintain the WTGs. MHI Vestas is currently servicing about 2.4 GW of offshore wind turbines on 17 different projects.



MHI Vestas has recently started servicing [redacted] bringing valuable knowledge and lessons-learned to the HKZ-project. Table A-17 shows a selection of the experience of operation and maintenance of Witwind.

Table A 16: Requirements summary operations and maintenance

Criterion	Requirement	Witwind
# of MW operated		249
# of MW maintained		1,989
# of MW operated and maintained	>25	249

Table A 17: selected experience operations and maintenance

Project	MW	Completion year	Party	Type
Prinses Amalia (NL)	120	2008	Eneco	operations
Luchterduinen (NL)	129	2015	Eneco	operations
Prinses Amalia (NL)	120	2008	MHI Vestas	maintenance (from Ijmuiden)
Luchterduinen (NL)	129	2015	MHI Vestas	maintenance (from Ijmuiden)
Burbo Banks extension (UK)	258	2016/7	MHI Vestas	maintenance [redacted]
Blyth (UK)	42	2017	MHI Vestas	maintenance [redacted]
Rampion (UK)	400	2017/8	MHI Vestas	maintenance [redacted]

Supporting material

- [1] Annex A-1 – overview reference projects MHI Vestas
- [2] Annex A-2 – overview reference projects Van Oord
- [3] Annex A-3 – experience ██████████ foundation supply
- [4] Annex A-4 – experience ██████████ foundation supply
- [5] Annex A-5 – experience ██████████ inter array cable supply
- [6] Annex A-6 – experience ██████████ inter array cable supply
- [7] Annex A-7 – reference letter Van Oord on Burbo Banks Extension
- [8] Annex A-8 – reference letter Van Oord on Gemini
- [9] Annex A-9 – support letter MHI Vestas Offshore Wind
- [10] Annex A-10 – support letter Van Oord

Annex A-1 – overview reference projects MHI Vestas

Our Track Record – 2.9 GW Installed 953 turbines installed across 23 projects, ~ 2.4

BARROW*

Country	United Kingdom
Owner	Dong Energy
Installation year	2006
Number of turbines	30
Turbine type	V90-3.0 MW
MW:	90

SCROBY SANDS

Country	United Kingdom
Owner	E.ON UK
Installation year	2004
Number of turbines	30
Turbine type	V80-2.0 MW
MW:	60

HORNS REV

Country	Denmark
Owner	Vattenfall & Dong
Installation year	2002
Number of turbines	80
Turbine type	V80-2.0 MW
MW:	160

NORTH HOYLE*

Country	United Kingdom
Owner	Npower Renewables
Installation year	2004
Number of turbines	30
Turbine type	V80-2.0 MW
MW:	60

ROBIN RIGG

Country	United Kingdom
Owner	E.ON UK
Installation year	2009
Number of turbines	60
Turbine type	V90-3.0 MW
MW:	180

Blyth Offshore Wind Farm*

Country	United Kingdom
Owner	EDF Energy Renewables
Installation year	2017
Number of turbines	5
Turbine type	V164-8.0 MW
MW:	41.5

KENTISH FLATS*

Country	United Kingdom
Owner	Vattenfall
Installation year	2005
Number of turbines	30
Turbine type	V90-3.0 MW
MW:	90

Burbo Bank Extension*

Country	United Kingdom
Owner	DONG Energy
Installation year	2016-17
Number of turbines	32
Turbine type	V164-8.0 MW
MW:	258

KENTISH FLATS EXT.*

Country	United Kingdom
Owner	Vattenfall
Installation year	2015
Number of turbines	15
Turbine type	V112-3.3 MW
MW:	50

Nobelwind*

Country	Belgium
Owner	Parkwind
Installation year	2016-17
Number of turbines	50
Turbine type	V112-3.3 MW
MW:	165

WINDFLOAT-FLOATING FOUNDATION

Country	Portugal
Owner	Windplus
Installation year	2011
Number of turbines	1
Turbine type	V80-2.0 MW
MW:	2

THANET*

Country	United Kingdom
Owner	Vattenfall
Installation year	2010
Number of turbines	100
Turbine type	V90-3.0 MW
MW:	300

BLIGH BANK*

Country	Belgium
Owner	Belwind N.V.
Installation year	2010
Number of turbines	55
Turbine type	V90-3.0 MW
MW:	165

*Currently under service contract

d

GW under service contract

TUNØ KNOB

Country	Denmark
Owner	Npower Renewables
Installation year	1995
Number of turbines	10
Turbine type	V39-500 kW
MW:	5

Rampion*

Country	United Kingdom
Owner	E.ON
Installation year	2017-18
Number of turbines	116
Turbine type	V112-3.45 MW
MW:	400

MAADE*

Country	Denmark
Owner	European Energy
Installation year	2016
Number of turbines	2
Turbine type	V164
MW:	16

SPROGØ*

Country	Denmark
Owner	Sund & Bælt
Installation year	2009
Number of turbines	7
Turbine type	V90-3.0 MW
MW:	21

NORTHWIND*

Country	Belgium
Owner	Northwind NV
Installation year	2013
Number of turbines	72
Turbine type	V112-3.0 MW
MW:	216

ENECO LUCHTERDUINEN*

Country	The Netherlands
Owner	Eneco & Mitsubishi
Installation year	2015
Number of turbines	43
Turbine type	V112-3.0 MW
MW:	129

KÅREHAMN*

Country	Sweden
Owner	E.ON
Installation year	2013
Number of turbines	16
Turbine type	V112-3.0 MW
MW:	48

OFFSHORE WINDPARK Q7*

Country	The Netherlands
Owner	WP Q7 Holding B.V.
Installation year	2007
Number of turbines	60
Turbine type	V80-2.0 MW
MW:	120

HUMBER GATEWAY*

Country	UK
Owner	E.ON
Installation year	2014
Number of turbines	73
Turbine type	V112-3.0 MW
MW:	219

EGMOND AAN ZEE

Country	The Netherlands
Owner	Shell & NUON
Installation year	2006
Number of turbines	36
Turbine type	V90-3.0 MW
MW:	108

Annex A-2 – overview reference projects Van Oord

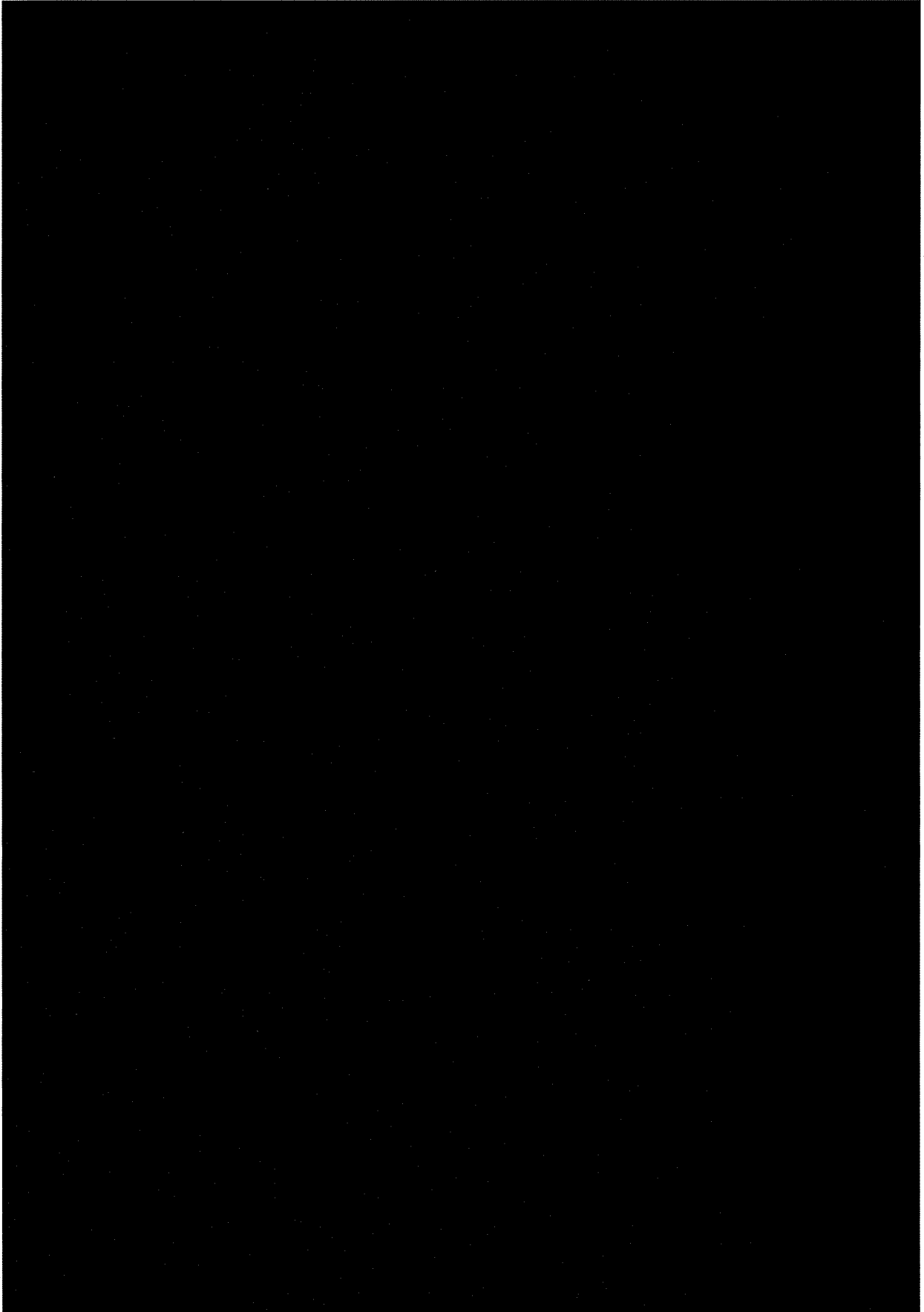
Project	Party	# of foundations / inter-array cables	Supply foundations	Install foundations	Supply inter-array cables	Install inter-array cables	EPC
Horns Rev 1 (DK)	2002	80		x			
Burbo Bank (UK)	2004	25		x			
Scroby Sands (UK)	2004	30		x			
OWEZ (NL)	2006	36		x			
Arklow Bank (IE)	2007	7		x			
Prinses Amalia (NL)	2008	60	x	x	x	x	x
Lynn (UK)	2009	27		x			
Rhyl Flats (UK)	2009	25		x			
Sprogø (DK)	2009	7	x	x			
Alpha Ventus (D)	2010	12		x			
Gunfleet Sands (UK)	2010	28		x			
Horns Rev 2 (DK)	2010	92	x	x			
Rodsand 2 (DK)	2010	90	x	x			
Belwind 1 (B)	2012	55	x	x	x	x	x
Walney 2 (UK)	2012	50		x			
Anholt (DK)	2013	111		x			
Dan Tysk (UK)	2013	80	x	x		x	
London Array (UK)	2013	175	x	x			
Sheringham Shoal (UK)	2013	88		x			
Teesside (UK)	2013	27	x	x	x	x	x
Amrumbank (D)	2015	19 ⁴⁾		x			
Baltic 2 (D)	2015	39 ⁷⁾		x			
Butendiek (D)	2015	80		x			
Luchterduinen (NL)	2015	43	x	x	x	x	x
Gemini (NL)	2016	150	x	x	x	x	x
Westermeerwind (NL)	2016	48	x	x			
Burbo Bank extension (UK)	2017	32		x			
Nordergründe (D)	2017	18		x			
Sandbank (D)	2017	72		x			
Walney extension East (UK)	2017	87		x			
Total				1,693		415	

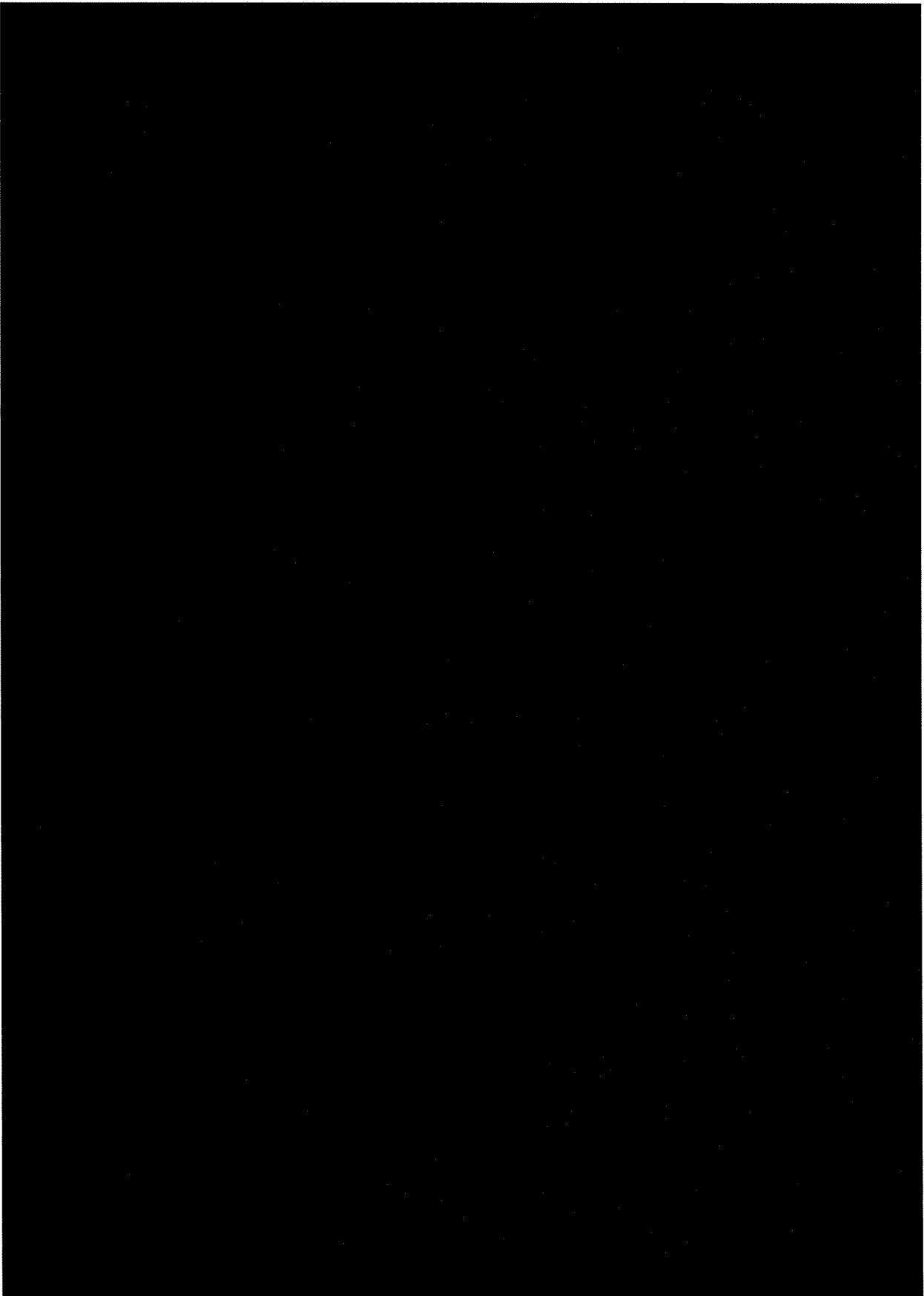
4) Contractually, Van Oord has supplied the foundation to these projects. However, the foundations have been fabricated by other companies, like [REDACTED]

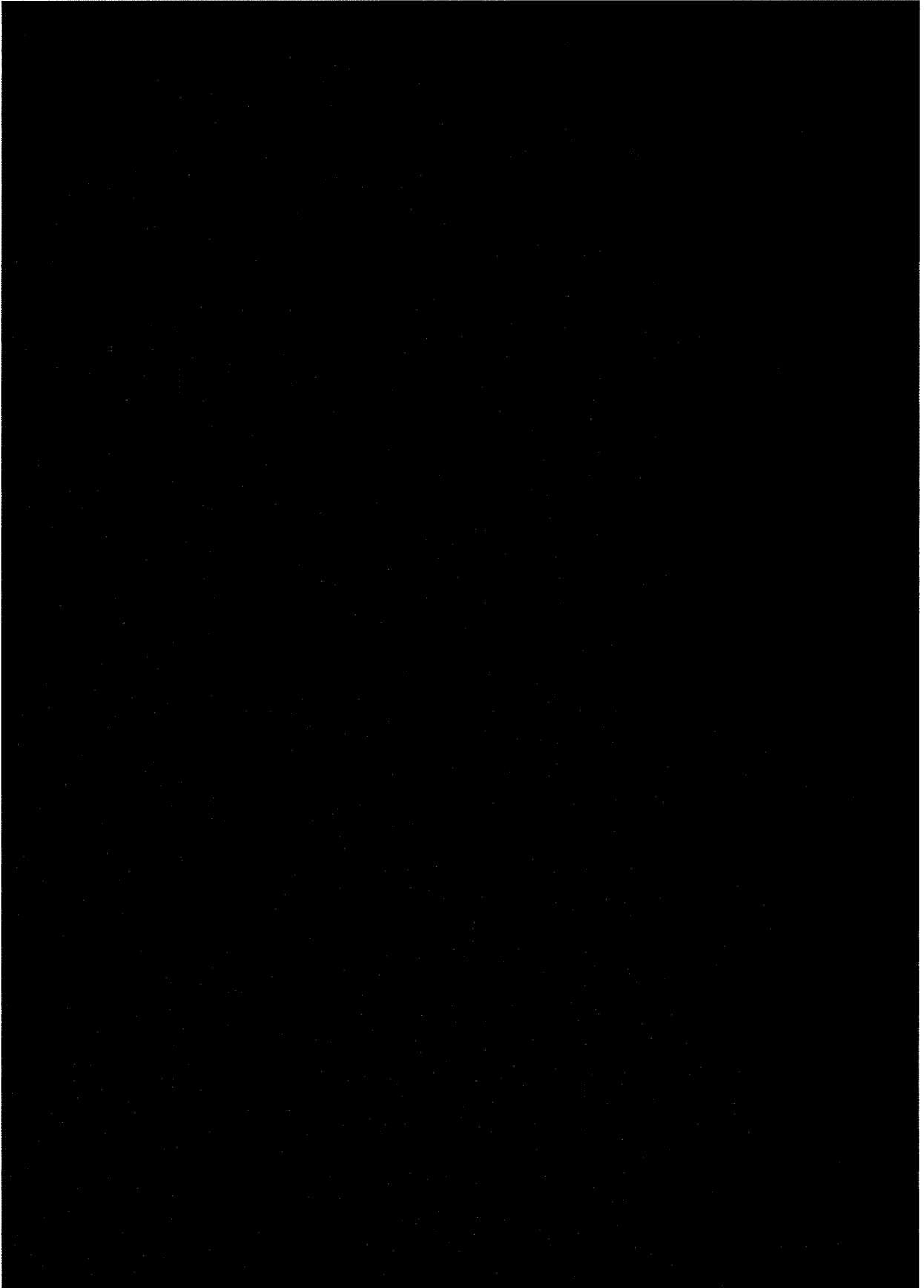
5) Contractually, Van Oord has supplied the inter-array cables to these projects. However, the cables have been fabricated by other companies, like [REDACTED]

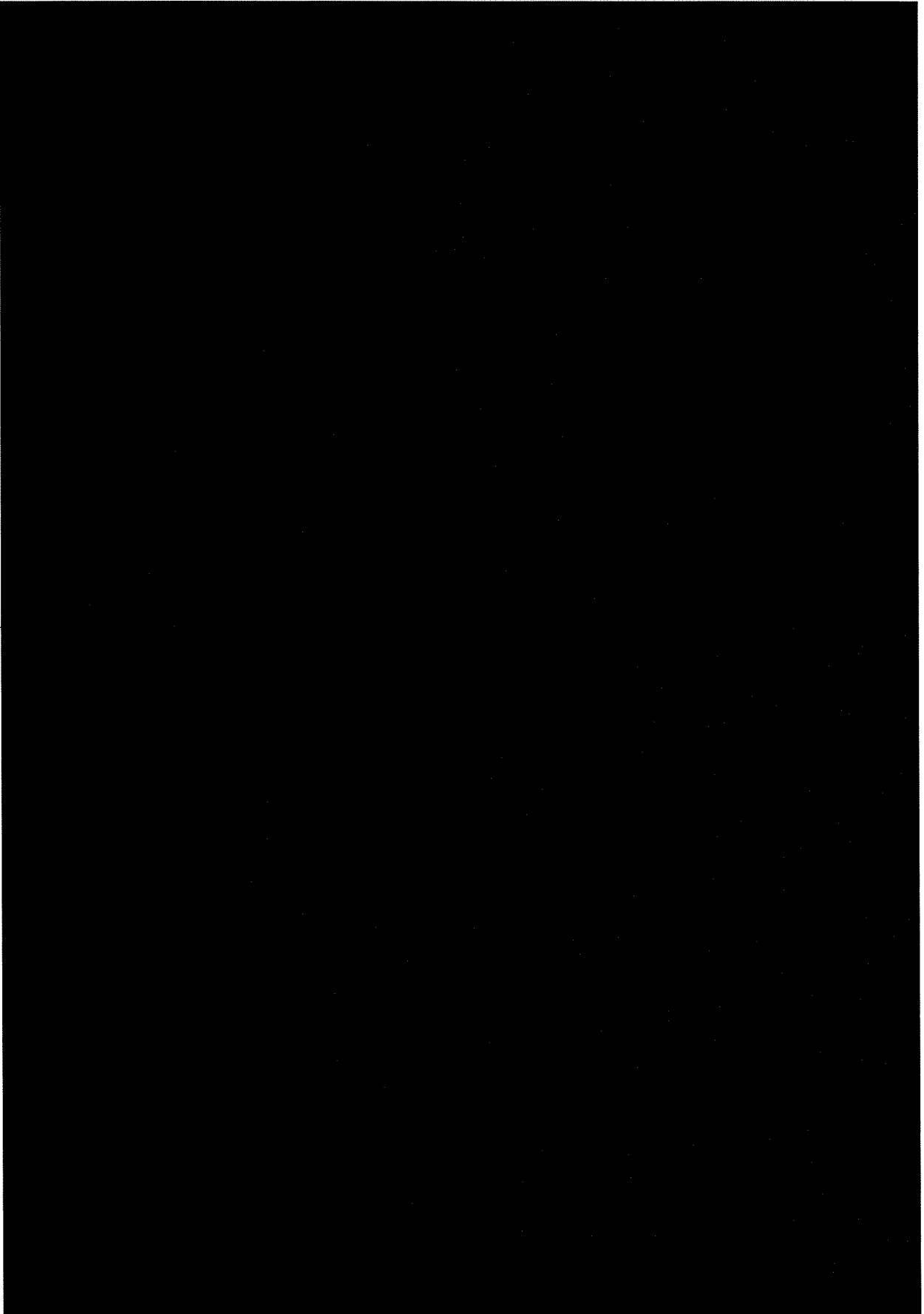
6) On this project, Van Oord has installed only 19 out of the 80 foundations.

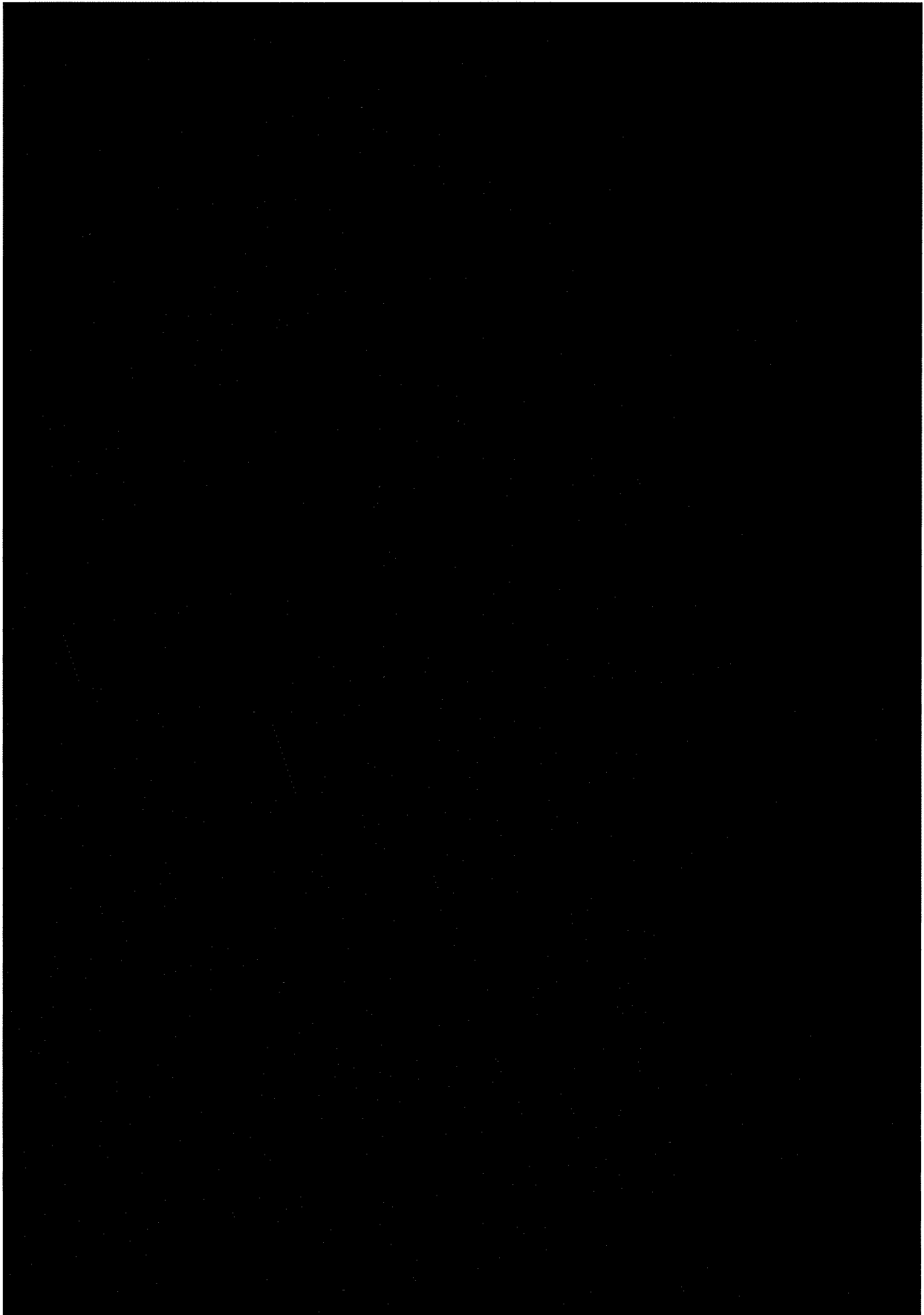
7) On this project, Van Oord has installed only 39 out of the 80 foundations.

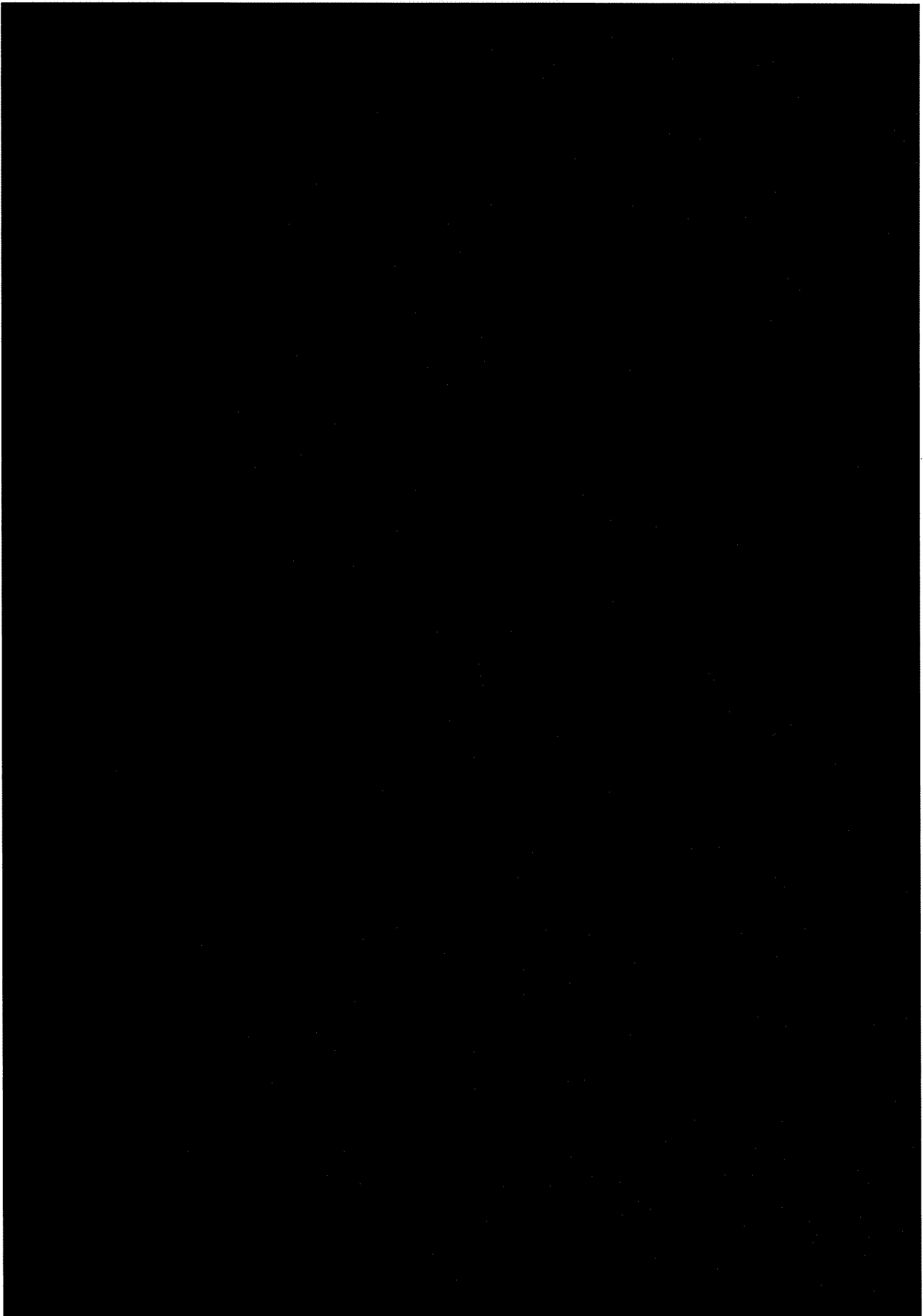


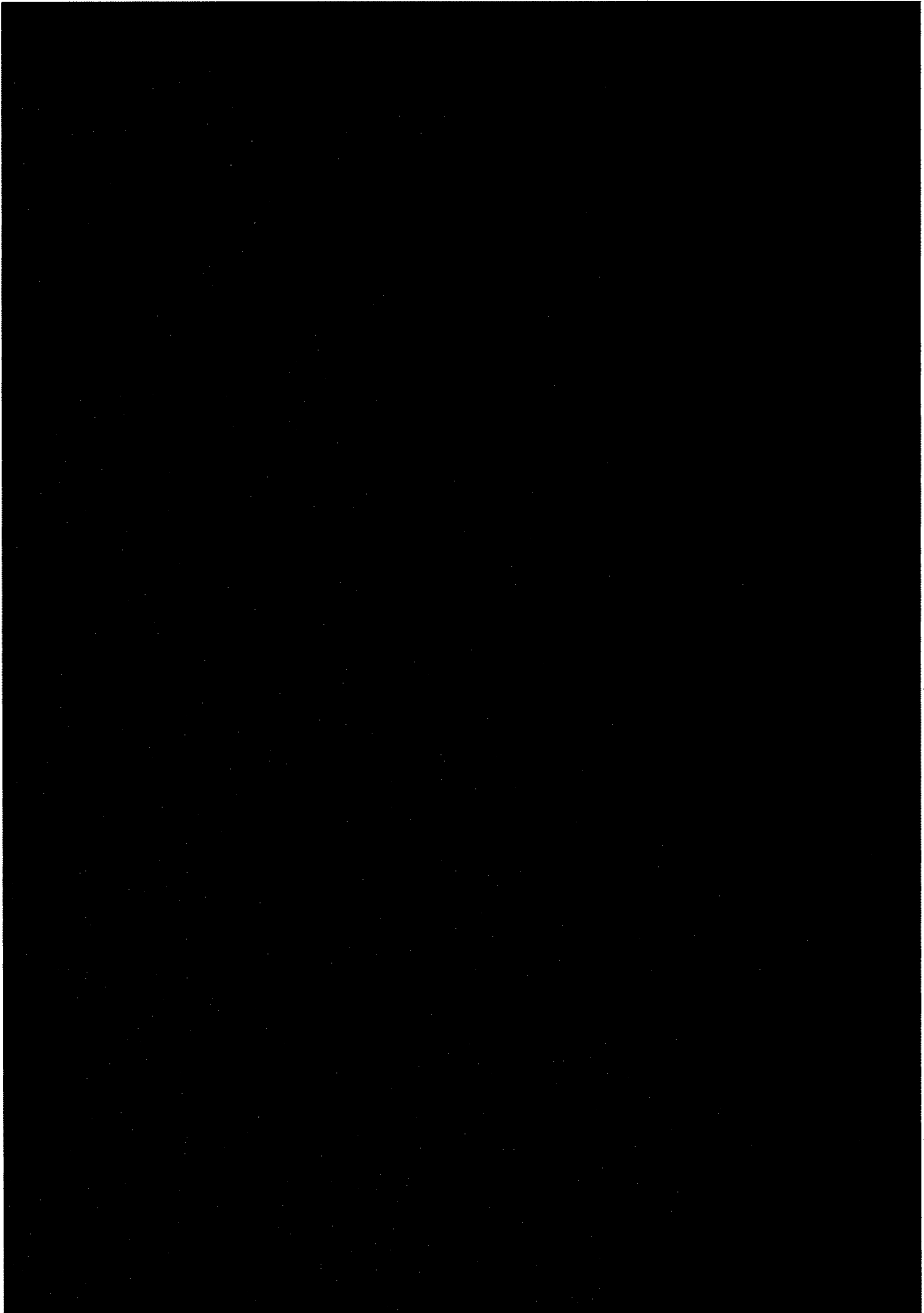


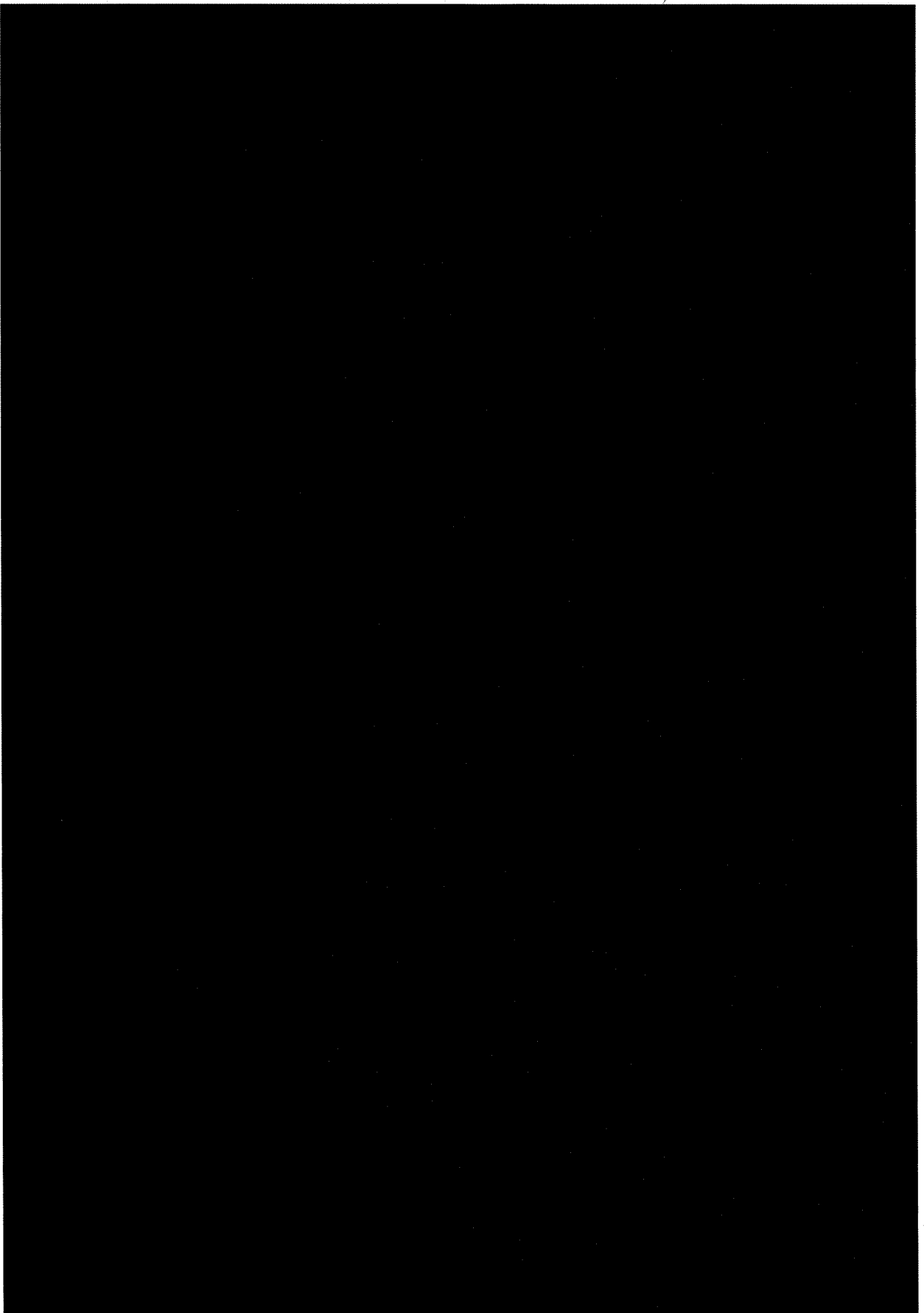


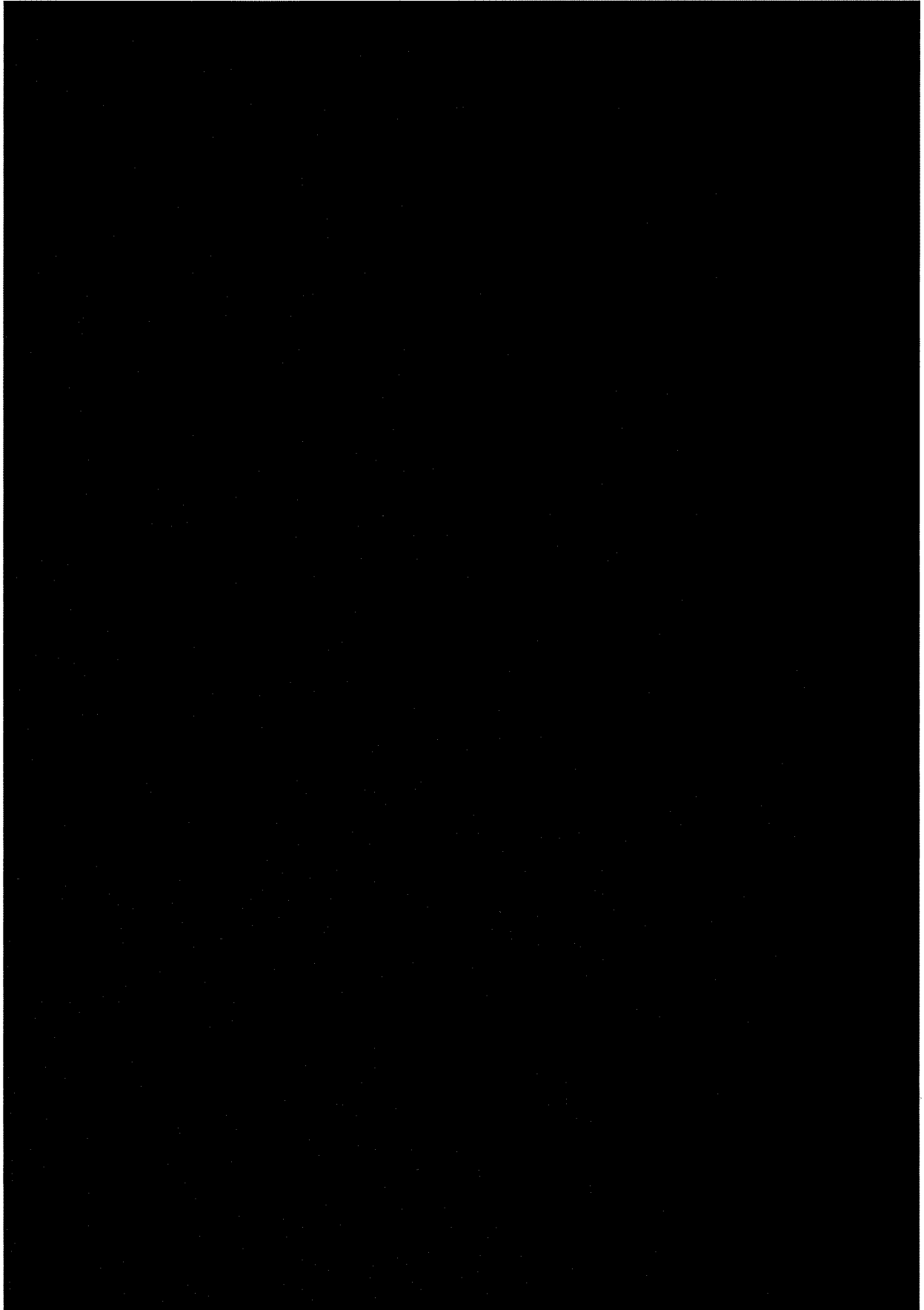


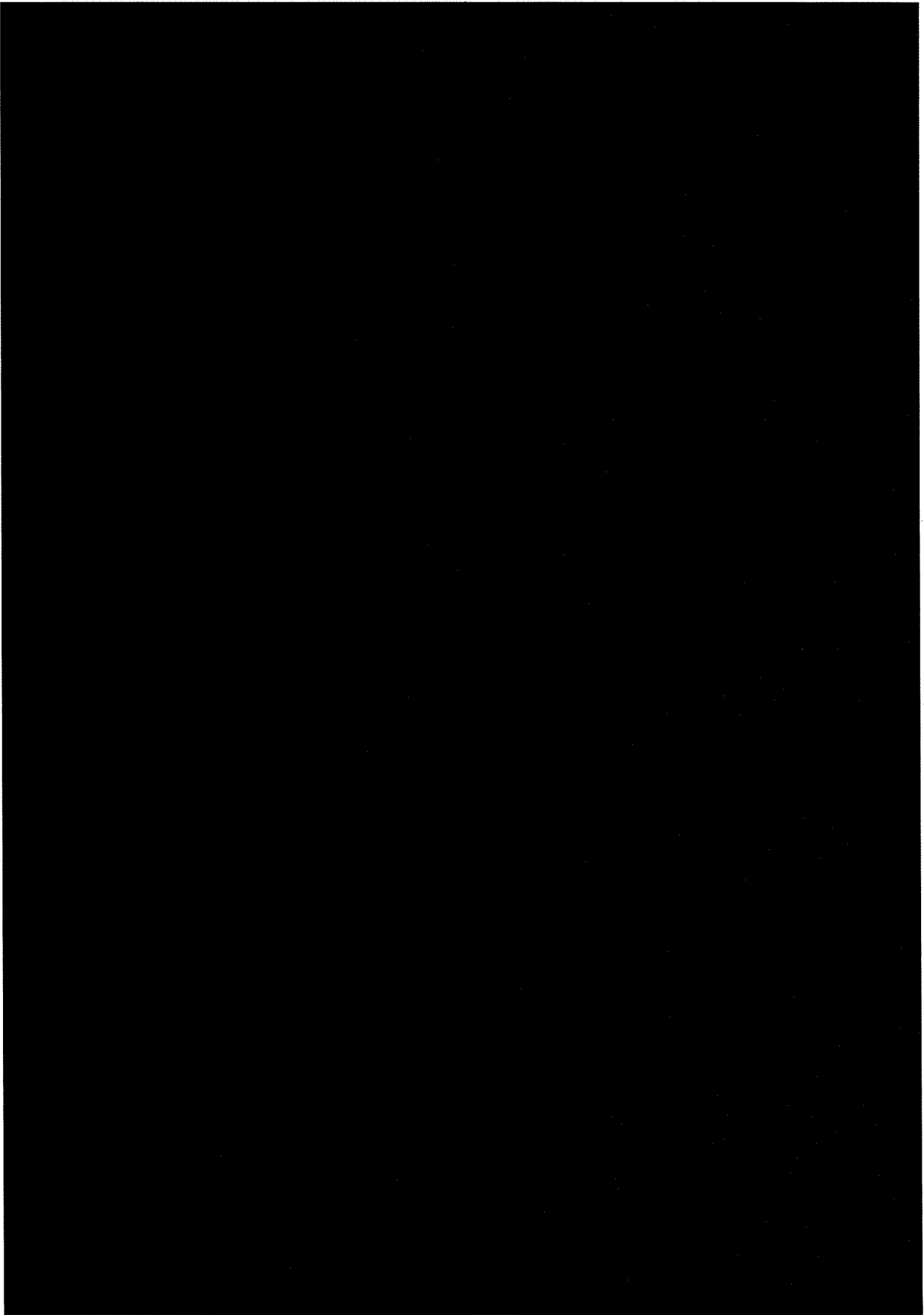


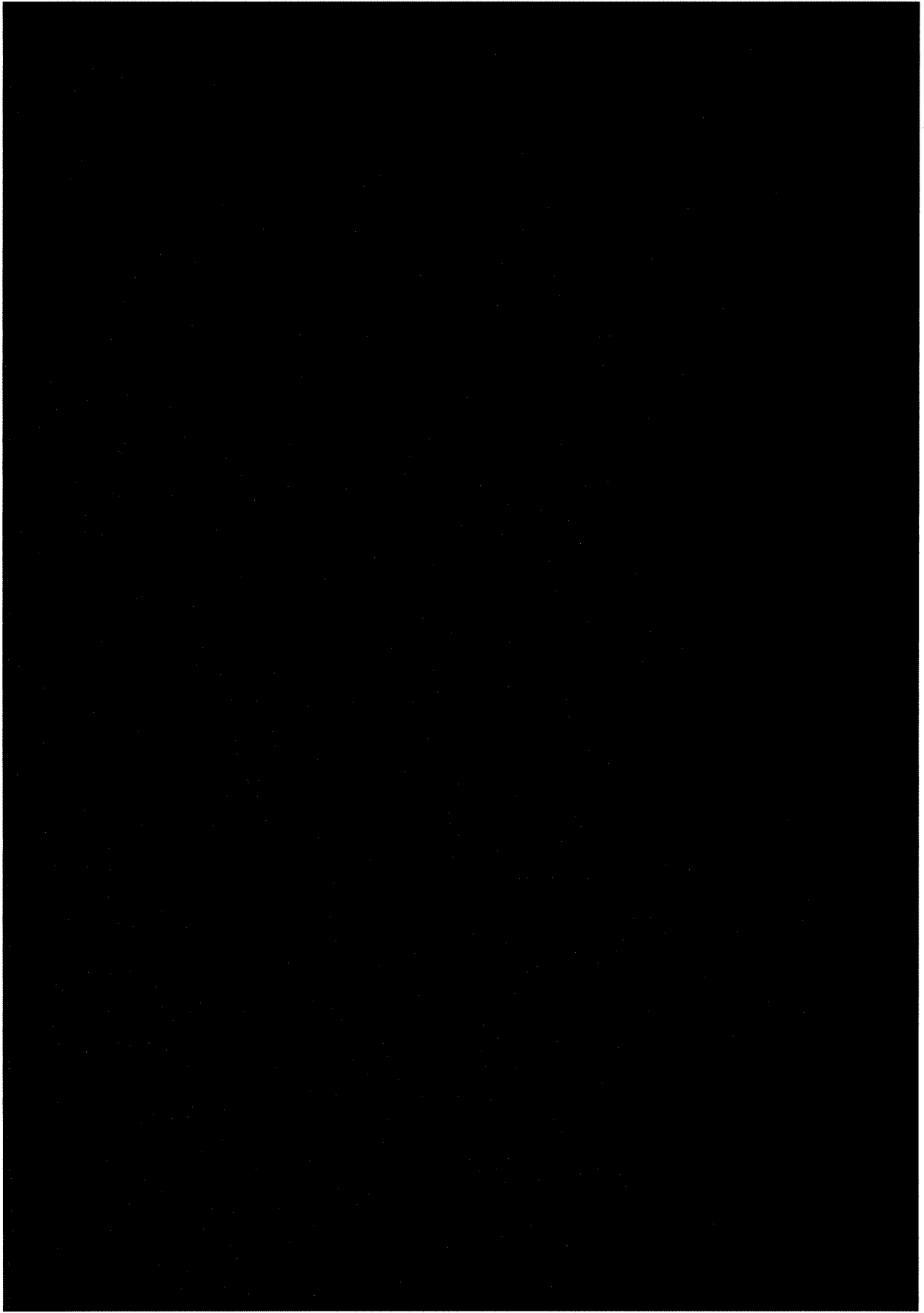


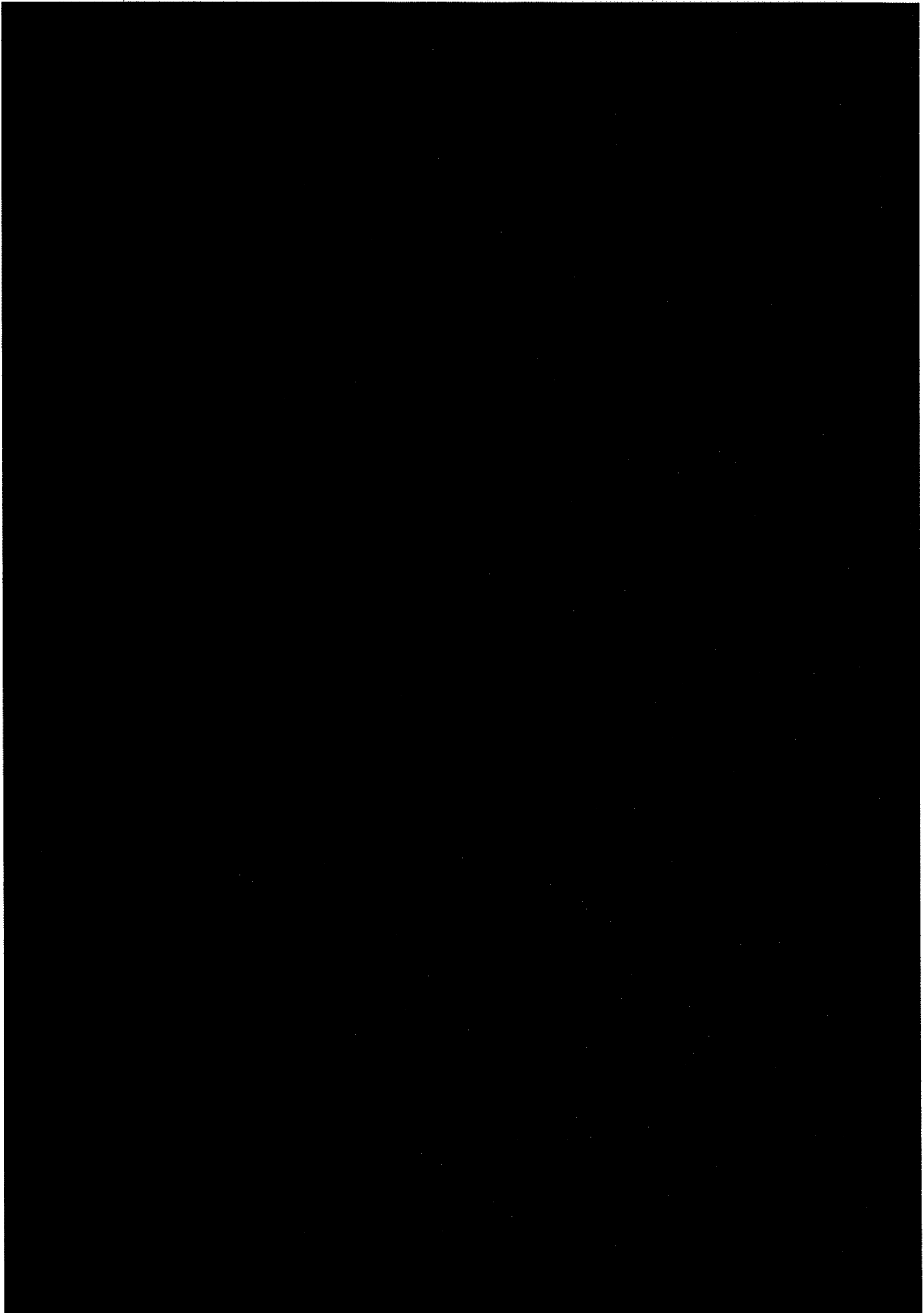


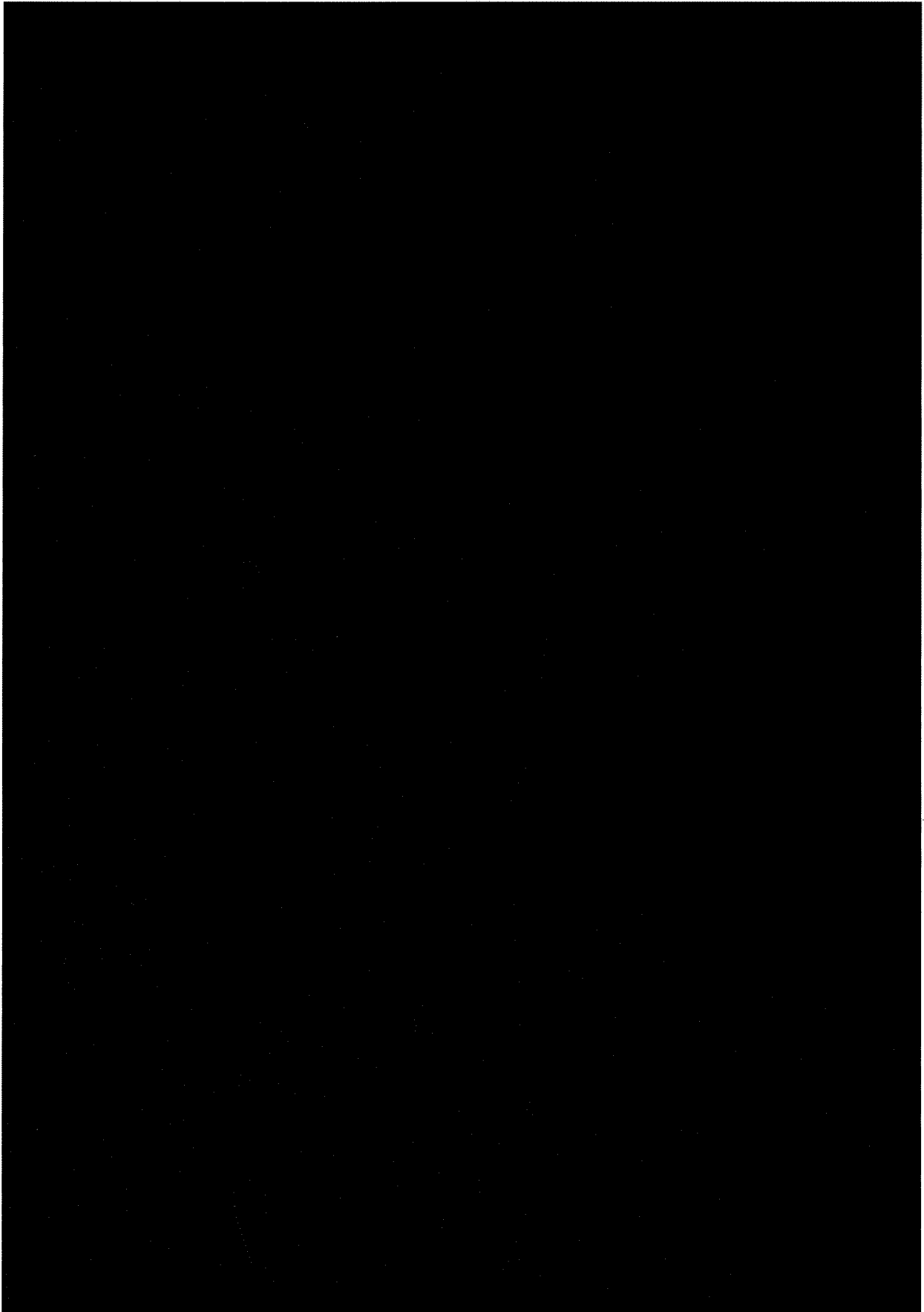


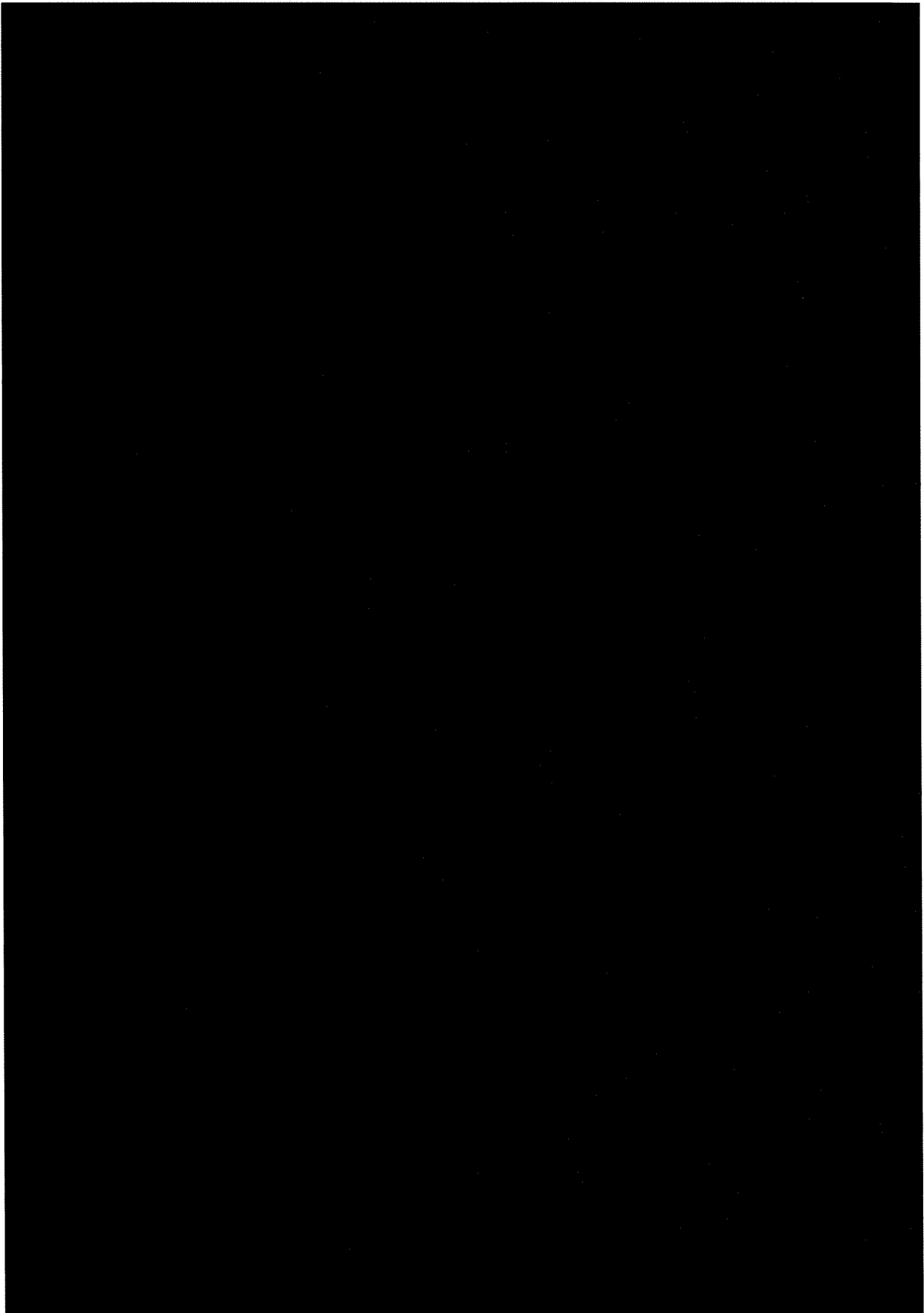








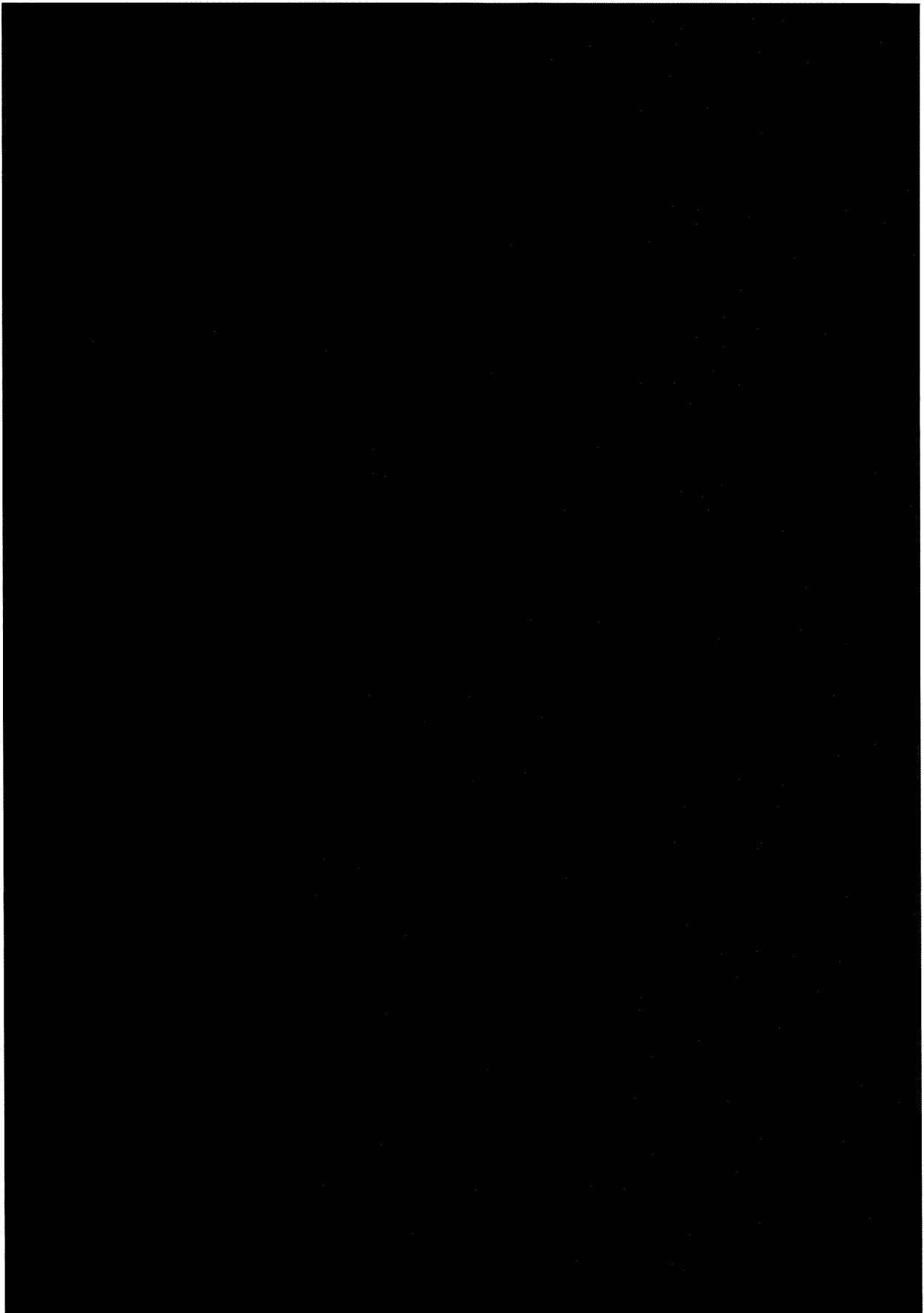




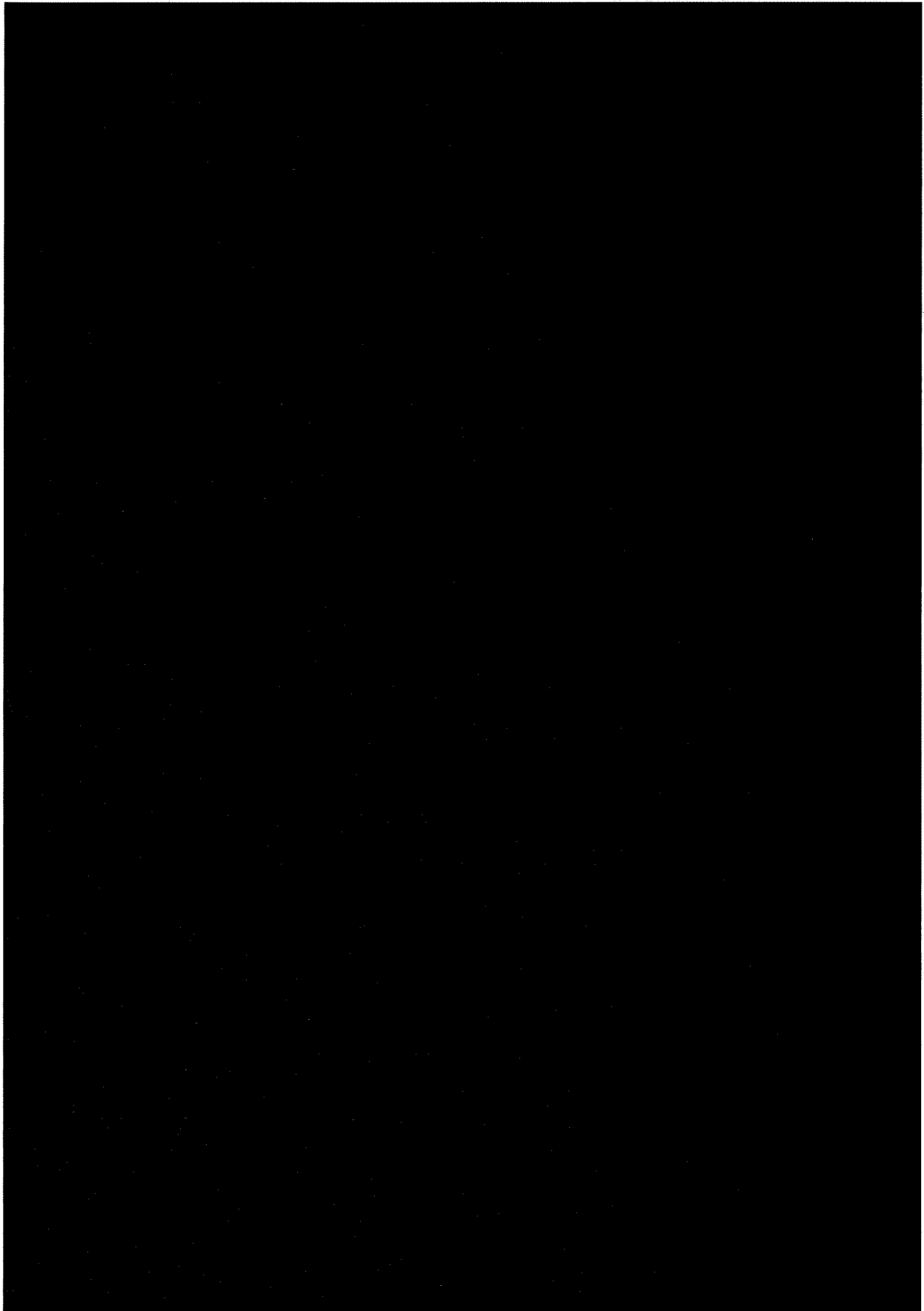
Annex A-7 – reference letter Van Oord on

[Redacted]

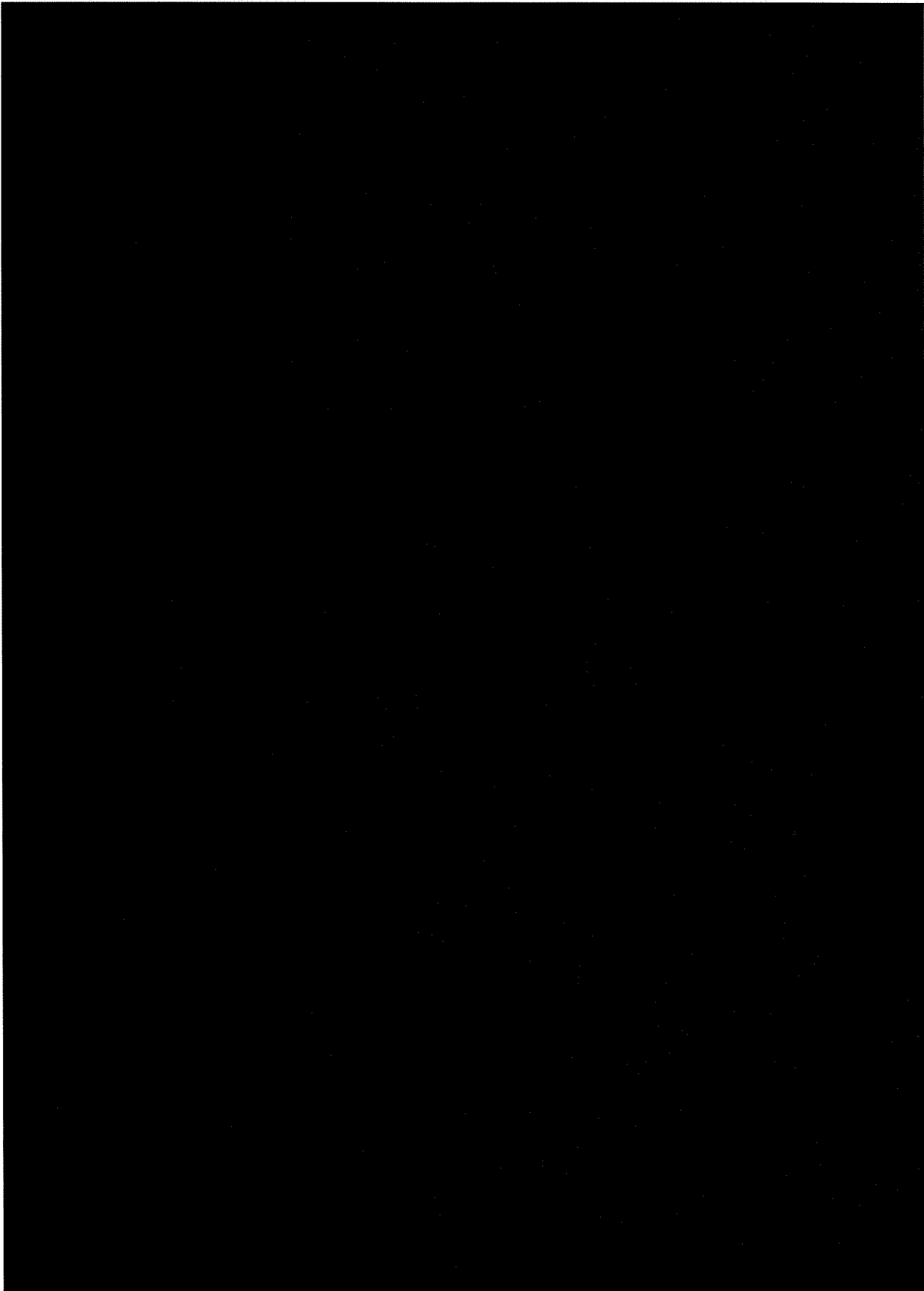
[Redacted]

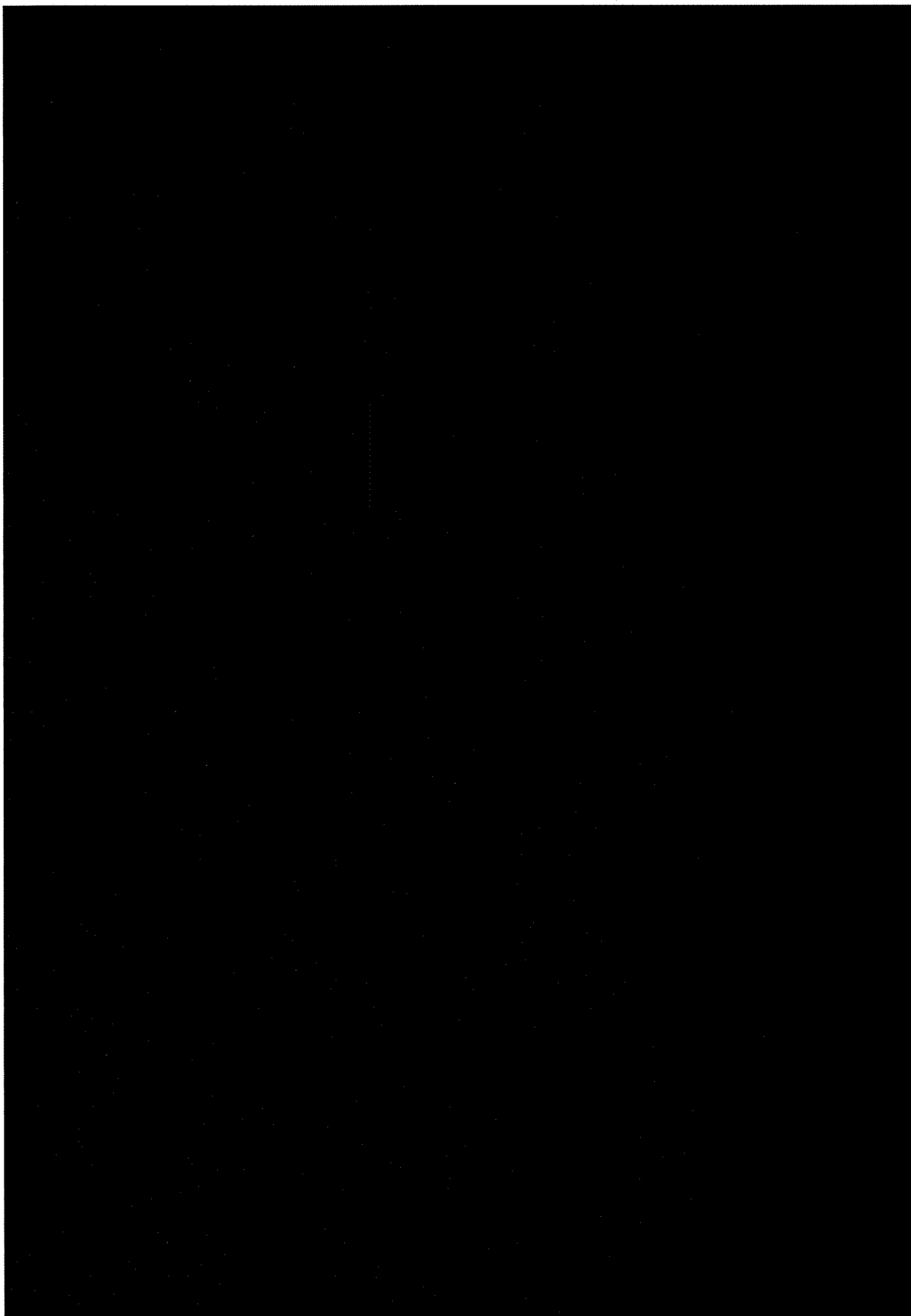


Annex A-8 – reference letter Van Oord on



Annex A-9 – support letter







Volledigheidstoets Vergunningsaanvraag WOZ 2017

Referentienummer	VERWZ17011
Naam aanvrager	Witwind C.V.
Intermediair	Witwind C.V.
Datum ingediend	21-12-2017

Adviseur
2^e adviseur



Thema	SDE WOZ Hollandse Kust Zuid K 1 +2
Kies kavel die van toepassing is op deze aanvraag:	
Hollandse Kust (zuid), kavel	I

Twee PA's controleren gezamenlijk of de aanvraag aan de indieningsvereisten voldoet en volledig is. Indien nodig JZ en of OL inschakelen.

Nr.	Controle aanvraag op volledigheid	Nee	Ja/ n.v.t.
1	Is het voorgeschreven formulier gebruikt?		Ja
2	Zijn alle verplichte velden in het formulier correct ingevuld en leesbaar ingevuld? Verplichte velden bevatten gegevens die van invloed zijn op het oordeel.		Ja
	Bijlagen: Controleer of de verplichte bijlagen aanwezig zijn en of ze inderdaad betrekking hebben op de aanvraag en het te ontwikkelen windpark. Bijlagen 11, 12 en 13 zijn verplicht onder voorwaarden. Bijlagen A1 t/m A4 zijn verplicht indien vraag 8.1 van het Aanvraagformulier met 'Ja' is beantwoord. Vul bij de controle Nee in indien een bijlage die verplicht is ontbreekt, onjuist of onvolledig is. In alle andere gevallen Ja/n.v.t. invullen. Indien Nee, vul dan in de volgende tabel de bevinding in.		
3	Bijlage 1 Samenvattende beschrijving		Ja
4	Bijlage 2 Windrapport		Ja
5	Bijlage 3 Exploitatieberekening volgens RVO model		Ja
6	Bijlage 4 Jaarrekening + eventuele instemming moeder		Ja
7	Bijlage 5 Financieringsplan		Ja
8	Bijlage 6 Tabel windturbinegegevens en -locaties		Ja
9	Bijlage 7 Tabel kabeltracé-gegevens		Ja
10	Bijlage 8 Overzicht van de kennis en ervaring van de betrokken partijen		Ja
11	Bijlage 9 Overzicht van de inventarisatie en analyse van de risico's		Ja
12	Bijlage 10 Beschrijving van de maatregelen ter borging van de kostenefficiëntie		Ja
13	Bijlage 11 Overzicht samenwerkingsverband met ondertekening door elke deelnemer		n.v.t.
14	Bijlage 12 Verklaring voor bij de aanvraag genoemde niet gecertificeerde turbines		
15	Bijlage 13 Milieueffecten fundatie		n.v.t.
	Bijlagen met aanvullende informatie voor het schaalvoordeel dat ontstaat als aanvrager ook voor de andere kavel heeft aangevraagd en vraag 8.1 met 'ja' is beantwoord.		
16	Bijlage A1 Samenvattende beschrijving met schaalvoordeel		Ja
17	Bijlage A2 Exploitatieberekening volgens RVO model met schaalvoordeel		Ja
18	Bijlage A3 Overzicht van de inventarisatie en analyse van de risico's met schaalvoordeel		Ja
19	Bijlage A4 Beschrijving van de maatregelen ter borging van de kostenefficiëntie met schaalvoordeel		Ja

20	Check of de papieren bijlagen dezelfde zijn als de bijlagen op de USB-stick. Wanneer een bijlage op de USB-stick ontbreekt of verschilt, is de papieren bijlage de geldige versie.		Ja
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Opmerkingen en bevindingen van de controles

Beschrijf opmerkingen en bevindingen in de onderstaande tabel onder verwijzing naar Nr. uit de lijst. Betrek JZ indien een bevinding kan leiden tot een afwijzing en overleg met JZ of er een mogelijkheid tot herstel is. Is de conclusie dat een aanvraag moet worden afgewezen, formuleer dan in overleg met JZ een afwijzingstekst.

Nr.	Opmerking/bevinding
7	Extra bijlage 5 voor HKZ I&II

Eindconclusies controles aanvraag op volledigheid	
Zijn alle controle vragen met Ja/n.v.t. beantwoord?	
JA. Ga verder met inhoudelijke toets	Ja
NEE. De aanvraag voldoet niet. Wijs de aanvraag af. Formuleer hieronder in overleg met JZ de afwijstekst.	

Concept afwijstekst

Volledigheidstoets Vergunningsaanvraag WOZ 2017

Referentienummer	VERWZ17012
Naam aanvrager	Witwind C.V.
Intermediair	Witwind C.V.
Datum ingediend	21-12-2017

Adviseur
2^e adviseur



Thema	SDE WOZ Hollandse Kust Zuid K 1 +2
Kies kavel die van toepassing is op deze aanvraag:	
Hollandse Kust (zuid), kavel	II

Twee PA's controleren gezamenlijk of de aanvraag aan de indieningsvereisten voldoet en volledig is. Indien nodig JZ en of OL inschakelen.

Nr.	Controle aanvraag op volledigheid	Nee	Ja/ n.v.t.
1	Is het voorgeschreven formulier gebruikt?		Ja
2	Zijn alle verplichte velden in het formulier correct ingevuld en leesbaar ingevuld? Verplichte velden bevatten gegevens die van invloed zijn op het oordeel.		Ja
	Bijlagen: Controleer of de verplichte bijlagen aanwezig zijn en of ze inderdaad betrekking hebben op de aanvraag en het te ontwikkelen windpark. Bijlagen 11, 12 en 13 zijn verplicht onder voorwaarden. Bijlagen A1 t/m A4 zijn verplicht indien vraag 8.1 van het Aanvraagformulier met 'Ja' is beantwoord. Vul bij de controle Nee in indien een bijlage die verplicht is ontbreekt, onjuist of onvolledig is. In alle andere gevallen Ja/n.v.t. invullen. Indien Nee, vul dan in de volgende tabel de bevinding in.		
3	Bijlage 1 Samenvattende beschrijving		Ja
4	Bijlage 2 Windrapport		Ja
5	Bijlage 3 Exploitatieberekening volgens RVO model		Ja
6	Bijlage 4 Jaarrekening + eventuele instemming moeder		Ja
7	Bijlage 5 Financieringsplan		Ja
8	Bijlage 6 Tabel windturbinegegevens en -locaties		Ja
9	Bijlage 7 Tabel kabeltracé-gegevens		Ja
10	Bijlage 8 Overzicht van de kennis en ervaring van de betrokken partijen		Ja
11	Bijlage 9 Overzicht van de inventarisatie en analyse van de risico's		Ja
12	Bijlage 10 Beschrijving van de maatregelen ter borging van de kostenefficiëntie		Ja
13	Bijlage 11 Overzicht samenwerkingsverband met ondertekening door elke deelnemer		n.v.t.
14	Bijlage 12 Verklaring voor bij de aanvraag genoemde niet gecertificeerde turbines		
15	Bijlage 13 Milieueffecten fundatie		n.v.t.
	Bijlagen met aanvullende informatie voor het schaaloordeel dat ontstaat als aanvrager ook voor de andere kavel heeft aangevraagd en vraag 8.1 met 'ja' is beantwoord.		
16	Bijlage A1 Samenvattende beschrijving met schaaloordeel		Ja
17	Bijlage A2 Exploitatieberekening volgens RVO model met schaaloordeel		Ja
18	Bijlage A3 Overzicht van de inventarisatie en analyse van de risico's met schaaloordeel		Ja
19	Bijlage A4 Beschrijving van de maatregelen ter borging van de kostenefficiëntie met schaaloordeel		Ja

20	Check of de papieren bijlagen dezelfde zijn als de bijlagen op de USB-stick. Wanneer een bijlage op de USB-stick ontbreekt of verschilt, is de papieren bijlage de geldige versie.		Ja
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Opmerkingen en bevindingen van de controles

Beschrijf opmerkingen en bevindingen in de onderstaande tabel onder verwijzing naar Nr. uit de lijst. Betrek JZ indien een bevinding kan leiden tot een afwijzing en overleg met JZ of er een mogelijkheid tot herstel is. Is de conclusie dat een aanvraag moet worden afgewezen, formuleer dan in overleg met JZ een afwijzingstekst.

Nr.	Opmerking/bevinding
7	Extra bijlage 5 toegevoegd voor HKZ I&II

Eindconclusies controles aanvraag op volledigheid	
Zijn alle controle vragen met Ja/n.v.t. beantwoord?	
JA. Ga verder met inhoudelijke toets	Ja
NEE. De aanvraag voldoet niet. Wijs de aanvraag af. Formuleer hieronder in overleg met JZ de afwijstekst.	

Concept afwijstekst

Witwind C.V.

KvK-nummer: 70307598

Aanvraag:*Kavel I zonder schaalvoordeel:*

Investeringskosten: € [REDACTED]

Kavel II zonder schaalvoordeel:

Investeringskosten: € [REDACTED]

Kavels I en II met schaalvoordeel:

Investeringskosten: € [REDACTED]

Eigen vermogen aanvullen: Ja

Totale eigen vermogen: € 4.359.722.052

Projectplan:

In het projectplan is geen organogram o.i.d. gevoegd. Wel wordt er gezegd wie de vermogensverschaffers zijn in Witwind:

- DGE
- Eneco
- Van Oord

Jaarverslag:

Uit de verklaring blijkt dat de volgende bedrijven de partners van Witwind C.V. zijn:

- Van Oord Renewable Finance II B.V. (100% dochter van Van Oord N.V.)
- Eneco HKZ B.V. (100% dochter van N.V. Eneco Beheer B.V.)
- Diamond Offshore Wind Holdings IV B.V. (100% dochter van Diamond Generating Europe Limited).

De jaarverslagen/jaarrekeningen van N.V. Eneco Beheer, Van Oord N.V. en Diamond Generating Europe Ltd zijn bijgevoegd.

Volgens aanvrager zijn dit de eigen vermogens:

- N.V. Eneco Beheer:	€ 3.121.091.052
- Van Oord N.V.:	€ 904.888.000
- Diamond Generating Europe Ltd	€ 333.743.000
Totaal:	€ 4.359.722.052

Uit de jaarverslagen/jaarrekeningen blijken de volgende eigen vermogens:

Diamond Generating Europe Ltd.:	€ 333.742.000
N.V. Eneco Beheer:	€ 3.121.000.000
Van Oord N.V.:	€ 904.888.000
Totaal:	€ 4.359.630.000

Dit betreft een zeer klein verschil. Waarschijnlijk afronding.

KvK-gegevens:

Witwind C.V.: 70307598

De vennoot van Witwind C.V. is Witwind Management B.V. (70326851).

De bestuurders van Witwind Management B.V. zijn:

- Eneco HKZ B.V. (68861419)
- Van Oord Offshore Wind B.V. (11052540)

- Diamond Generating Europe B.V. (54732115)

Eneco HKZ B.V. (68861419):

- Enig aandeelhouder en bestuurder is Eneco Wind B.V. (24257373)
- Enig aandeelhouder en bestuurder is Eneco B.V. (24433142)
- Enig aandeelhouder is N.V. Eneco Beheer (24246970)
- Enig aandeelhouder is Eneco Groep N.V. (67470041)

Van Oord Offshore Wind B.V. (11052540):

- Enig aandeelhouder is Van Oord Marine B.V. (24368004)
- Enig aandeelhouder en bestuurder is Van Oord N.V. (24355843)

Diamond Generating Europe B.V. (54732115) (heeft ook naam Diamond Wind Europe):

- Enig aandeelhouder is Diamond Generating Europe Limited (Engelse B.V.).

Conclusie:

Gelet op bovenstaande zijn de gestelde moeders (waar men de jaarverslagen/jaarrekening van heeft meegestuurd, ook inderdaad te herleiden als moeders van aanvrager.

Gelet daarop kan het eigen vermogen van de volgende ondernemingen worden meegenomen:

-Diamond Generating Europe Ltd.:	€ 333.742.000
-N.V. Eneco Beheer:	€ 3.121.000.000
-Van Oord N.V.:	€ 904.888.000
Totaal:	€ 4.359.630.000

De investeringskosten voor beide kavels met schaalvoordelen zijn: € [REDACTED]

% eigen vermogen/investering is € 4.359.630.000/€ [REDACTED] * 100% = [REDACTED] %

Dit is meer dan 20%, dus akkoord.

Financiële toets Vergunningaanvraag 2017 WOZ

Referentienummer
Naam aanvrager

VERWZ17011

Financieel expert

Thema

2017 windenergie op zee

Hollandse Kust (zuid) kavel

I

FT Nr.	Financiële toets door financieel expert van RVO	Nee	Ja/ n.v.t.
1	Zijn de jaarrekeningen van <ul style="list-style-type: none"> • de aanvrager of • de moederonderneming(en) (schriftelijke instemming van de moeder moet zijn meegestuurd met de aanvraag) of • de deelnemers aan het samenwerkingsverband? (Regeling artikel 3, lid 10.d en artikel 4 lid 3)		Ja
2	Zijn de meest recent vastgestelde jaarrekeningen als bijlage meegestuurd en dateren die van 2014 of later? (Regeling artikel 3, lid 10.d)		Ja
3	De financieel expert heeft aan de hand van de jaarrekeningen het totale eigen vermogen gecontroleerd (som EV's van de jaarrekeningen). Het eigen vermogen op basis van de analyse van de jaarrekeningen door de financieel expert is: € 4.359.631.000,00 Is het eigen vermogen volgens het aanvraagformulier bij vraag 5.5 gelijk aan de som van de eigen vermogens uit de jaarrekening(en)? Het EV volgens het aanvraagformulier bedraagt € 4.359.722.052,00. Het verschil van € 91.052,00 betreft een afronding in het EV van N.V. Eneco beheer.	Nee	
4	Is het eigen vermogen als percentage van de hoogte van de investering (o.b.v. aanvraagformulier) $\geq 20\%$. (Regeling artikel 4, lid 2)? Let op: <ul style="list-style-type: none"> • wanneer de aanvrager voor kavel I en II heeft aangevraagd, moet bij de berekening de som van de investeringen gebruikt worden. (Regeling artikel 4, lid 5) Eigen vermogen: € 4.359.631.000,00 Investering o.b.v. aanvraagformulier: € XXXXXXXXXX Percentage: XXXX %		Ja

FT Nr.	Financiële toets door financieel expert van RVO	Nee	Ja/ n.v.t.																				
	<table> <tr> <th></th><th>EV in€</th><th>Investering in€</th><th>EV als % vd inv.</th></tr> <tr> <td>Totaal</td><td>4.359.631.000,00</td><td></td><td>%</td></tr> <tr> <td><i>N.V. Eneco Beheer</i></td><td>3.121.000.000,00</td><td></td><td></td></tr> <tr> <td><i>DGE ltd</i></td><td>333.743.000,00</td><td></td><td></td></tr> <tr> <td><i>Van Oord N.V.</i></td><td>904.888.000,00</td><td></td><td></td></tr> </table>		EV in€	Investering in€	EV als % vd inv.	Totaal	4.359.631.000,00		%	<i>N.V. Eneco Beheer</i>	3.121.000.000,00			<i>DGE ltd</i>	333.743.000,00			<i>Van Oord N.V.</i>	904.888.000,00				
	EV in€	Investering in€	EV als % vd inv.																				
Totaal	4.359.631.000,00		%																				
<i>N.V. Eneco Beheer</i>	3.121.000.000,00																						
<i>DGE ltd</i>	333.743.000,00																						
<i>Van Oord N.V.</i>	904.888.000,00																						
5	<p>Biedt het financieringsplan inzicht in de financiering van het windpark, inclusief de beoogde financiers en het beoogde aandeel dat zij zouden dragen ? (Regeling artikel 3 lid 10.b)</p> 		Ja																				

Opmerkingen en bevindingen van de controles en herstel.

Beschrijf opmerkingen en bevindingen in de onderstaande tabel onder verwijzing naar Toetsingslijst Nr. Betrek JZ indien een bevinding kan leiden tot een afwijzing en overleg met JZ of er een mogelijkheid tot herstel is. Herstel is alleen mogelijk als bepaalde informatie niet duidelijk is. In dat geval mag in overleg met JZ een gesloten geformuleerde (ja/nee) verhelderingsvraag gesteld worden. Is de conclusie dat een aanvraag moet worden afgewezen, formuleer dan in overleg met JZ een afwijzingstekst.

Nr.	Opmerking/bevinding

Financiële toets Vergunningaanvraag 2017 WOZ

Referentienummer
Naam aanvrager

VERWZ17012

Financieel expert

Thema

2017 windenergie op zee

Hollandse Kust (zuid) kavel

II

FT Nr.	Financiële toets door financieel expert van RVO	Nee	Ja/ n.v.t.
1	Zijn de jaarrekeningen van <ul style="list-style-type: none"> • de aanvrager of • de moederonderneming(en) (schriftelijke instemming van de moeder moet zijn meegestuurd met de aanvraag) of • de deelnemers aan het samenwerkingsverband? (Regeling artikel 3, lid 10.d en artikel 4 lid 3)		Ja
2	Zijn de meest recent vastgestelde jaarrekeningen als bijlage meegestuurd en dateren die van 2014 of later? (Regeling artikel 3, lid 10.d)		Ja
3	De financieel expert heeft aan de hand van de jaarrekeningen het totale eigen vermogen gecontroleerd (som EV's van de jaarrekeningen). Het eigen vermogen op basis van de analyse van de jaarrekeningen door de financieel expert is: € 4.359.631.000,00 Is het eigen vermogen volgens het aanvraagformulier bij vraag 5.5 gelijk aan de som van de eigen vermogens uit de jaarrekening(en)? Het EV volgens het aanvraagformulier bedraagt € 4.359.722.052,00. Het verschil van € 91.052,00 betreft een afronding in het EV van N.V. Eneco beheer.	Nee	
4	Is het eigen vermogen als percentage van de hoogte van de investering (o.b.v. aanvraagformulier) ≥ 20% . (Regeling artikel 4, lid 2)? Let op: <ul style="list-style-type: none"> • wanneer de aanvrager voor kavel I en II heeft aangevraagd, moet bij de berekening de som van de investeringen gebruikt worden. (Regeling artikel 4, lid 5) Eigen vermogen: € 4.359.631.000,00 Investering o.b.v. aanvraagformulier: € XXXXXXXXXX Percentage: XXXX %		Ja

FT Nr.	Financiële toets door financieel expert van RVO	Nee	Ja/ n.v.t.																				
	<table> <tr> <th></th><th>EV in€</th><th>Investering in€</th><th>EV als % vd inv.</th></tr> <tr> <td>Totaal</td><td>4.359.631.000,00</td><td></td><td>%</td></tr> <tr> <td><i>N.V. Eneco Beheer</i></td><td>3.121.000.000,00</td><td></td><td></td></tr> <tr> <td><i>DGE ltd</i></td><td>333.743.000,00</td><td></td><td></td></tr> <tr> <td><i>Van Oord N.V.</i></td><td>904.888.000,00</td><td></td><td></td></tr> </table>		EV in€	Investering in€	EV als % vd inv.	Totaal	4.359.631.000,00		%	<i>N.V. Eneco Beheer</i>	3.121.000.000,00			<i>DGE ltd</i>	333.743.000,00			<i>Van Oord N.V.</i>	904.888.000,00				
	EV in€	Investering in€	EV als % vd inv.																				
Totaal	4.359.631.000,00		%																				
<i>N.V. Eneco Beheer</i>	3.121.000.000,00																						
<i>DGE ltd</i>	333.743.000,00																						
<i>Van Oord N.V.</i>	904.888.000,00																						
5	<p>Biedt het financieringsplan inzicht in de financiering van het windpark, inclusief de beoogde financiers en het beoogde aandeel dat zij zouden dragen ? (Regeling artikel 3 lid 10.b)</p> 		Ja																				

Opmerkingen en bevindingen van de controles en herstel.

Beschrijf opmerkingen en bevindingen in de onderstaande tabel onder verwijzing naar Toetsingslijst Nr. Betrek JZ indien een bevinding kan leiden tot een afwijzing en overleg met JZ of er een mogelijkheid tot herstel is. Herstel is alleen mogelijk als bepaalde informatie niet duidelijk is. In dat geval mag in overleg met JZ een gesloten geformuleerde (ja/nee) verhelderingsvraag gesteld worden. Is de conclusie dat een aanvraag moet worden afgewezen, formuleer dan in overleg met JZ een afwijzingstekst.

Nr.	Opmerking/bevinding

Toetsing kavelbesluiten I en II en Waterbesluit 6.16d
Windenergiegebied Hollandse Kust Zuid
Regeling windenergie op zee 2017

Referentienummer
Aanvrager

VERWZ17011
Witwind CV

Thema
Hollandse Kust Zuid kavel

2017 windenergie op zee
I

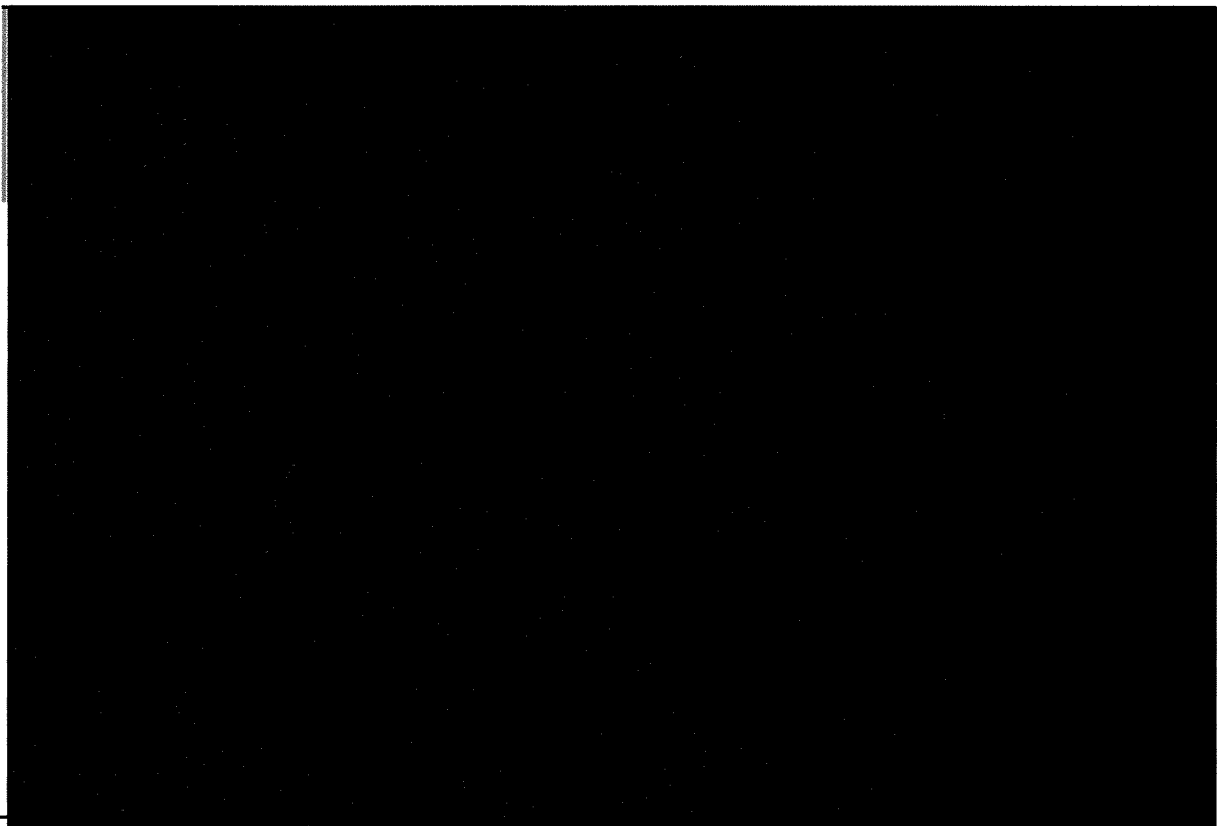
RVO levert de relevante gegevens aan RWS die nodig zijn om RWS te laten controleren of aan de voorschriften van het kavelbesluit en waterbesluit is voldaan.

RWS stelt een rapport op waarin per lid staat hoe ze de controle hebben uitgevoerd en wat het resultaat is van de controle. De conclusies uit dit rapport neemt RWS over in de onderstaande toetsingslijst. RWS voegt dit rapport toe als bijlage achter de toetsingslijsten.

Lid nr.	Controle op voorschrift 2 lid 1 t/m 13 uit kavelbesluiten windenergiegebied Hollandse Kust Zuid	Nee	Ja/ n.v.t.
1	Bevindt het windpark zich volledig binnen de contour volgens de coördinaten van lid 1?		Ja
2	Ligt het kabeltracé naar het platform binnen de contour volgens de coördinaten van lid 2?		Ja
3	Bevindt zich geen enkele windturbine in de onderhoudszones van lid 3?		Ja
4	Blijven de rotorbladen van de windturbines volledig binnen de in lid 1 genoemde contour en volledig buiten de in lid 3 genoemde contour?		Ja
5	Is het aantal op te richten turbines kleiner of gelijk aan 63?		Ja
6	Is het maximale totale rotoroppervlak kleiner of gelijk aan 1.461.542 m ² ?		Ja
7	Hebben de op te richten windturbines per stuk een vermogen dat minimaal 6 bedraagt?		Ja
8	Bedraagt de minimale afstand tussen de windturbines 4 maal de rotordiameter?		Ja
9	Is de minimale tiplaagte groter of gelijk aan 25 meter boven zeeniveau (MSL)?		Ja
10	Is de maximale tiphoogte kleiner of gelijk aan 251 meter boven zeeniveau (MSL)?		Ja
11	Worden de kabels vanaf de windturbines aangesloten op platform Alpha?		Ja

12	Zijn de funderingen van het type monopile, tripod, jacket, gravity based of suction bucket? Of als geen van deze funderingen wordt toegepast, overschrijden de milieueffecten van de fundering niet de grenzen van het kavelbesluit	Ja (MP)
13	Als opofferingsanodes gebruikt worden, bestaan deze dan uit legeringen van aluminium of magnesium met minder dan 5 gewicht % andere metalen?	Geen anodes, maar ICCP en coating
14	Eindconclusie controles kavelbesluit. Is het voldoende aannemelijk dat aan alle voorwaarden uit het kavel besluit zal worden voldaan	Ja

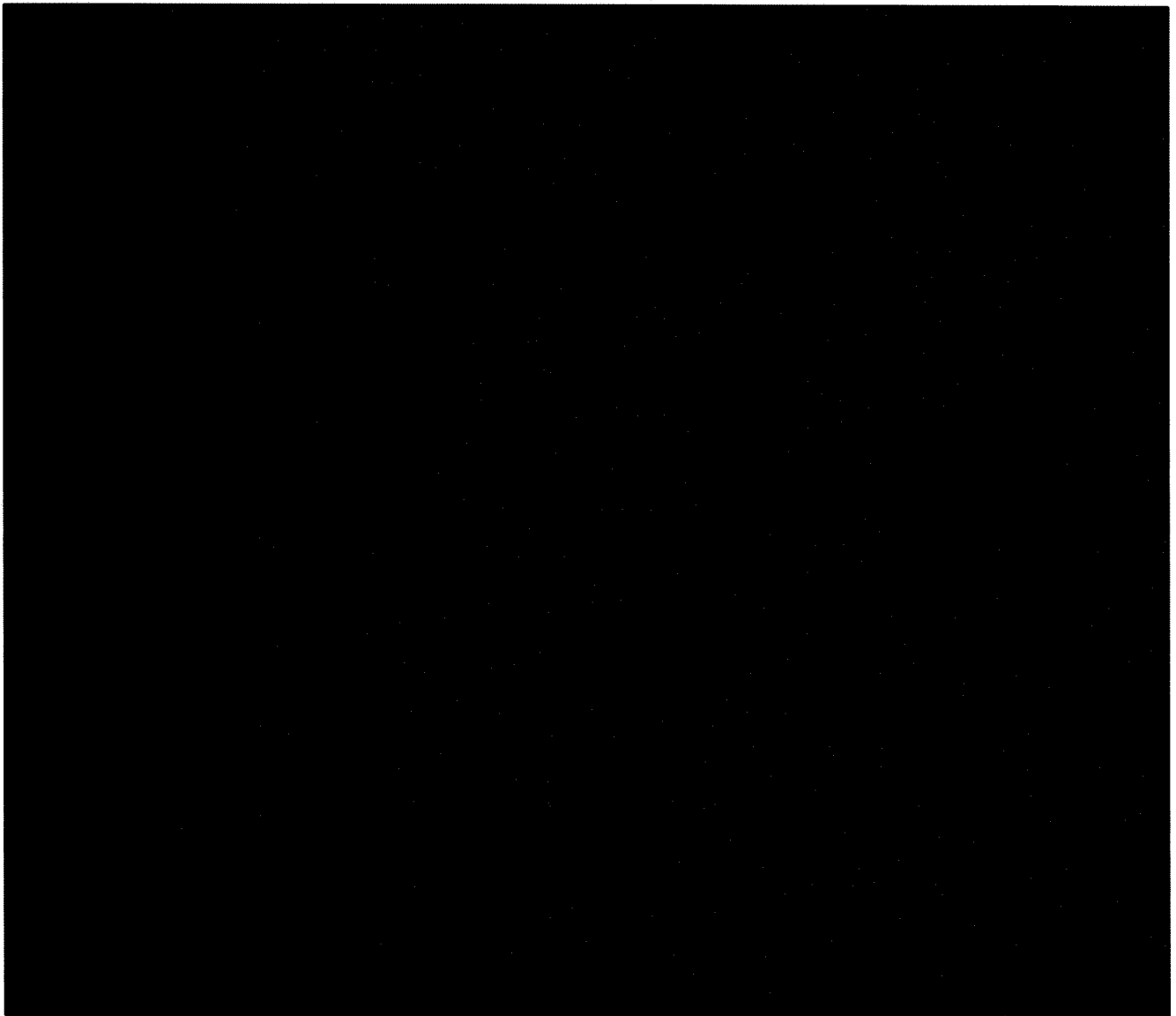
Controle op Waterbesluit 6.16d, lid 1 onderdeel c



Bijlagen: voeg hier de beoordelingsrapporten toe waaruit blijkt waarom welke antwoorden gegeven zijn in de bovenstaande toetsingslijsten

VERWZ17011

Resumé GIS checks	Controle op voorschrift 2 lid 1 t/m 13 uit kavelbesluiten windenergiegebied Hollandse Kust Zuid
	Bevindt het windpark zich volledig binnen de contour volgens de coördinaten van lid 1? Ja
	Ligt het kabeltracé naar het platform Alpha binnen de contour volgens de coördinaten van lid 2? Ja
	Bevindt zich geen enkele windturbine in de onderhoudszones? Ja
	Blijven de rotorbladen van de windturbines volledig binnen de in lid 1 genoemde contour en buiten de in lid 3 genoemde contour? Ja
	Bedraagt de minimale afstand tussen de windturbines 4 maal de rotordiameter? Ja
Artikel 4.3.2 situering en oppervlakte kavel I	Worden de kabels vanaf de windturbines aangesloten op platform Alpha conform lid 2? Ja



Toetsing kavelbesluiten I en II en Waterbesluit 6.16d
Windenergiegebied Hollandse Kust Zuid
Regeling windenergie op zee 2017

Referentienummer
Aanvrager

VERWZ17012
Witwind CV

Thema
Hollandse Kust Zuid kavel

2017 windenergie op zee
II

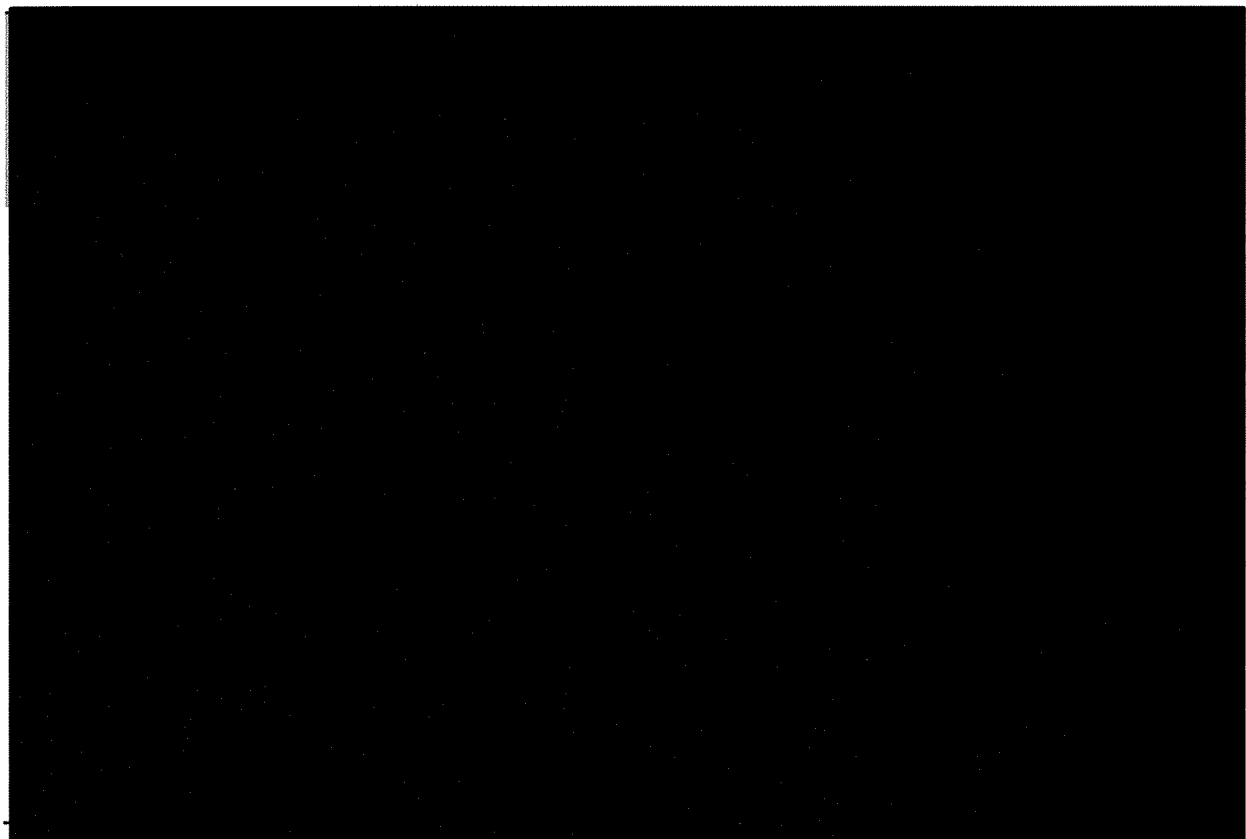
RVO levert de relevante gegevens aan RWS die nodig zijn om RWS te laten controleren of aan de voorschriften van het kavelbesluit en waterbesluit is voldaan.

RWS stelt een rapport op waarin per lid staat hoe ze de controle hebben uitgevoerd en wat het resultaat is van de controle. De conclusies uit dit rapport neemt RWS over in de onderstaande toetsingslijst. RWS voegt dit rapport toe als bijlage achter de toetsingslijsten.

Lid nr.	Controle op voorschrift 2 lid 1 t/m 13 uit kavelbesluiten windenergiegebied Hollandse Kust Zuid	Nee	Ja/ n.v.t.
1	Bevindt het windpark zich volledig binnen de contour volgens de coördinaten van lid 1?		Ja
2	Ligt het kabeltracé naar het platform binnen de contour volgens de coördinaten van lid 2?		Ja
3	Bevindt zich geen enkele windturbine in de onderhoudszones van lid 3?		Ja
4	Blijven de rotorbladen van de windturbines volledig binnen de in lid 1 genoemde contour en volledig buiten de in lid 3 genoemde contour?		Ja
5	Is het aantal op te richten turbines kleiner of gelijk aan 63?		Ja
6	Is het maximale totale rotoroppervlak kleiner of gelijk aan 1.461.542 m ² ?		Ja
7	Hebben de op te richten windturbines per stuk een vermogen dat minimaal 6 bedraagt?		Ja
8	Bedraagt de minimale afstand tussen de windturbines 4 maal de rotordiameter?		Ja
9	Is de minimale tiplaagte groter of gelijk aan 25 meter boven zeeniveau (MSL)?		Ja
10	Is de maximale tiphoogte kleiner of gelijk aan 251 meter boven zeeniveau (MSL)?		Ja
11	Worden de kabels vanaf de windturbines aangesloten op platform Alpha?		Ja

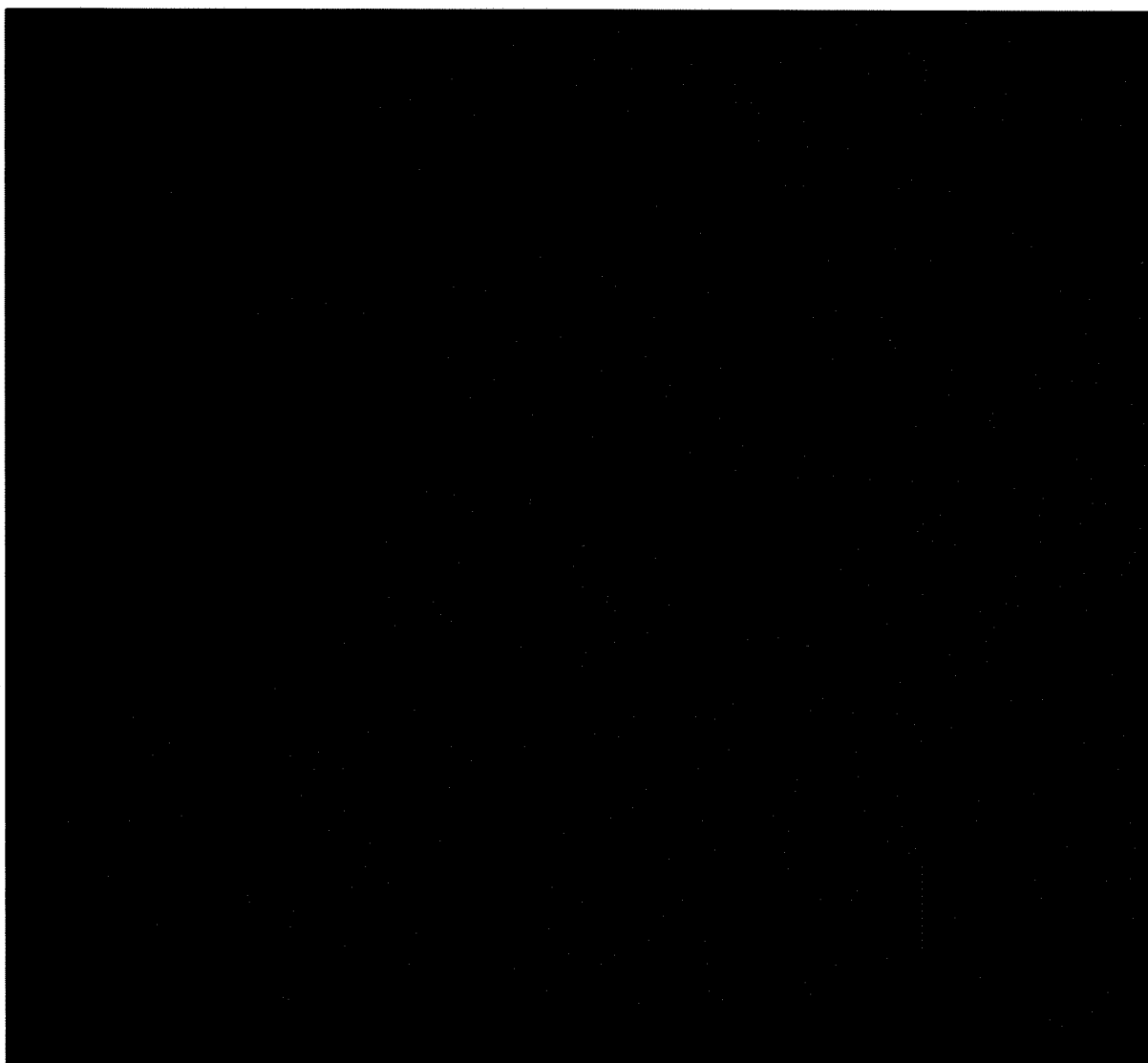
12	Zijn de funderingen van het type monopile, tripod, jacket, gravity based of suction bucket? Of als geen van deze funderingen wordt toegepast, overschrijden de milieueffecten van de fundering niet de grenzen van het kavelbesluit	Ja (MP)
13	Als opofferingsanodes gebruikt worden, bestaan deze dan uit legeringen van aluminium of magnesium met minder dan 5 gewicht % andere metalen?	Geen anodes, maar ICCP en coating
14	Eindconclusie controles kavelbesluit. Is het voldoende aannemelijk dat aan alle voorwaarden uit het kavel besluit zal worden voldaan	Ja

Controle op Waterbesluit 6.16d, lid 1 onderdeel c



Bijlagen: voeg hier de beoordelingsrapporten toe waaruit blijkt waarom welke antwoorden gegeven zijn in de bovenstaande toetsingslijsten

Resumé GIS checks	Controle op voorschrift 2 lid 1 t/m 13 uit kavelbesluiten windenergiegebied Hollandse Kust Zuid
	Bevindt het windpark zich volledig binnen de contour volgens de coördinaten van lid 1? Ja
	Ligt het kabeltracé naar het platform Alpha binnen de contour volgens de coördinaten van lid 2? Ja
	Bevindt zich geen enkele windturbine in de onderhoudszones? Ja
	Blijven de rotorbladen van de windturbines volledig binnen de in lid 1 genoemde contour en buiten de in lid 3 genoemde contour? Ja
	Bedraagt de minimale afstand tussen de windturbines 4 maal de rotordiameter? Ja
Artikel 4.3.2 situering en oppervlakte kavel I	Worden de kabels vanaf de windturbines aangesloten op platform Alpha conform lid 2? Ja



Inhoudelijke toetsing vergunning 2017 WOZ

Referentienummer	VERWZ17011
Naam aanvrager	Witwind C.V.
Datum ingediend	21-12-2017

Adviseur
2^e adviseur



Thema	Vergunning WOZ Hollandse Kust Zuid
Hollandse Kust (zuid) kavel	I+II

Twee PA's toetsen de aanvraag inhoudelijk.

In geval van een mogelijk Nee als antwoord eerst overleggen met JZ.

Na een positief oordeel op de indieningsvereisten (Tvol) wordt de aanvraag inhoudelijk getoetst aan de hand van deze toetsingslijst.

De inhoudelijke toets bestaat uit de volgende toetsingslijsten:

1. Aanvraagformulier (RVO)
2. Due dilligence (externe expert)
3. Financiële toets (RVO)
4. Windrapport (externe expert)
5. Exploitatieberekening (RVO)
6. Kavelbesluit voorschrift 2 lid 1 t/m 13 (RWS)
7. Waterbesluit artikel 6.16d, lid 1, onderdeel c (RWS)
8. Samenwerkingsverband (RVO)
9. Rangschikkingscriteria (RVO)

De aanvrager heeft in het aanvraagformulier aangegeven dat hij alleen voor de vergunningen van beide kavels tezamen in aanmerking wil komen. Deze toetsingslijst heeft daarom betrekking op beide kavels.

AF Nr.	Aanvraagformulier	Nee	Ja/ n.v.t.
1	<p>Komen de ontwerpgegevens voor het windpark in het aanvraagformulier sectie 3 overeen met de gegevens in:</p> <ul style="list-style-type: none"> • het windrapport (bijlage 2) • de tabel windturbine gegevens en locaties (bijlage 6) • de exploitatieberekening (bijlage 3) <p>Bespreek in geval van verschil.</p> <p>De ontwerpgegevens volgens aanvraag formulier zijn:</p> <ul style="list-style-type: none"> • P50-waarde: █████ MWh/jr • P50-waarde: █████ MWh/jr • Geïnstalleerd vermogen: █████ MW op kavel I en II • Windturbine: <ul style="list-style-type: none"> ◦ Merk █████ ◦ Type █████ ◦ Vermogen per turbine █████ MW ◦ Aantal █████ per kavel <p>Antwoord: alle gegevens komen overeen</p>		JA
2	<p>Is het opgesteld vermogen voor minimaal 342 MW tot maximaal 380 MW?</p> <p>(Kavelbesluit I of II Windenergiegebied HKZ, I Besluit)</p> <p>Het opgesteld vermogen is █████ MW op kavel I en II.</p>		JA
3	<p>Is het op basis van het tijdschema voor bouw en exploitatie voldoende aannemelijk dat de bouw en exploitatie van het windpark binnen 4 jaar na onherroepelijk worden van de vergunning gestart kan worden</p> <p>(Wet windenergie op zee, artikel 14, lid 1d en Regeling, artikel 4, lid 5).</p> <p>Verwachte afgifte vergunning voorjaar 2018, geplande start levering elektriciteit █████</p>		JA
4	<p>Komt de hoogte van de investering in het aanvraagformulier bij vraag 5 overeen met die uit de exploitatieberekening (bijlage 3) en het financieringsplan (bijlage 5).</p> <p>Investering bedraagt voor beide kavels samen: € █████.</p> <p>Is gelijk in alle documenten</p> <p>(Bij verschil tussen aanvraagformulier en de bijlage(n), overleg met JZ over de gevolgen van het verschil)</p>		JA

DD Nr.	Due Dilligence: Capex (Investering) en Opex (externe adviseur)	Nee	Ja/ n.v.t.
	Een advies van een externe adviseur wordt op de volgende aspecten getoetst (Zie advies Landsadvocaat dd. 25 mei 2016):		
A	Is het advies van de expert schriftelijk uitgebracht		JA
B	Zijn in dit advies alle relevante feiten en gegevens betrokken		JA
C	Blijkt uit het advies voldoende gedetailleerd welke procedurele stappen zijn gezet bij de beoordeling van de elementen uit de aanvraag		JA
D	Is de in het advies gevolgde gedachtegang duidelijk, begrijpelijk en voldoende controleerbaar? Herhaling van het onderzoek door andere experts moet mogelijk zijn.		JA

E	Zijn de conclusies begrijpelijk en liggen ze in het verlengde van het door de expert verrichte onderzoek		JA
1	<p>Advies van de due dilligence expert betreffende de CAPEX (investering): De expert vindt de CAPEX duidelijk te laag en niet redelijk Wat zijn de gevolgen van dit advies op de exploitatie? De BVG studie die door de expert als referentie is gebruikt en wel als redelijk kan worden beschouwd, gaat uit van ■■■ k€/MW voor de CAPEX. Deze referentie waarde is gebruikt in een herberekening van het projectrendement. Zie EB voor effect hiervan tezamen met andere factoren. De gevolgen van een eventuele (marginale) bijstelling van de CAPEX op de exploitatieberekening in te toetsingslijst EB verwerken.</p>		
2	<p>Advies van de due dilligence expert betreffende de OPEX: Wat zijn de gevolgen van dit advies voor de exploitatie? De BVG studie die door de expert als referentie is gebruikt en wel als redelijk kan worden beschouwd, gaat uit van ■■■ k€/MW/a voor de OPEX. Deze referentie waarde is gebruikt in een herberekening van het projectrendement. Zie EB voor effect hiervan tezamen met andere factoren. Gevolgen van een eventuele (marginale) bijstelling van de OPEX op exploitatieberekening in de toetsingslijst EB verwerken.</p>		

FT Nr.	Financiële toets	Nee	Ja/ n.v.t.
	<p>Is het voldoende aannemelijk dat de bouw en exploitatie financieel haalbaar is? (wanneer de bouw en exploitatie niet financieel haalbaar is, resulteert dit een afwijzing op grond van Wet WOZ, artikel 14, lid 1.c) Zie financiële toets en moeder dochter document</p>		JA

WR Nr.	Windrapport (externe adviseur)	Nee	Ja/ n.v.t.
	Een advies van een externe adviseur wordt op de volgende aspecten getoetst (Zie advies Landsadvocaat dd. 25 mei 2016):		
A	Is het advies van de expert schriftelijk uitgebracht		JA
B	Zijn in dit advies alle relevante feiten en gegevens betrokken		JA
C	Blijkt uit het advies voldoende gedetailleerd welke procedurele stappen zijn gezet bij de beoordeling van de elementen uit de aanvraag		JA
D	Is de in het advies gevolgde gedachtegang duidelijk, begrijpelijk en voldoende controleerbaar? Herhaling van het onderzoek door andere experts moet mogelijk zijn.		JA
E	Zijn de conclusies begrijpelijk en liggen ze in het verlengde van het door de expert verrichte onderzoek		JA
	Neem hieronder de conclusies uit het advies de externe windexpert over.		JA
1	Is het windrapport opgesteld door een onafhankelijke organisatie met expertise op het gebied van windenergie opbrengstberekeningen? (Regeling artikel 3, lid 1a)		JA

WR Nr.	Windrapport (externe adviseur)	Nee	Ja/ n.v.t.
2	Is gebruik gemaakt van gerenommeerde rekenmodellen, omgevingsmodellen, windmodellen en windkaarten? (Regeling artikel 3, lid 1a)		JA
3	Bevat het windrapport de locatiegegevens van de windturbines? (Regeling artikel 3, lid 1a)		JA
4	Bevat het windrapport merk, type? (Regeling artikel 3, lid 1a)		JA
5	Bevat het windrapport de technische gegevens : ashoogte, rotordiameter en de vermogenscurve? (Regeling artikel 3, lid 1a)		JA
6	Bevat het windrapport de lokale windgegevens zoals bijvoorbeeld: gem. windsnelheid, windroos, luchtdichtheid, Weibull, windatlas? (Regeling artikel 3, lid 1a)		JA
7	Bevat het windrapport een berekening van P50-waarde voor de netto elektriciteitsproductie op jaarbasis van het windpark? (Regeling artikel 3, lid 1a)		JA
8	Is in de berekening van de netto P50 opgenomen: de beschikbaarheid, zogeïeffeten, en terugregelverliezen? En is bij de berekening van de P50-waarde voor het zogeeffect, uitsluitend rekening gehouden met de productie-installatie zelf en met het windpark Luchterduinen? (Regeling artikel 3, lid 2)		JA
9	<p>Advies van de expert betreffende het windrapport:</p> <p>Kavel I: ██████████ % vanwege zogeeïeffeten en beschikbaarheid. Was ██████ wordt ██████ MWh/jaar.</p> <p>Kavel II: ██████████ % vanwege zogeeïeffeten en beschikbaarheid. Was ██████ wordt ██████ MWh/jaar.</p> <p>Ook is P50 aangepast voor verwachte verliezen als gevolg van het zog van complete HKZ + Luchterduinen.</p> <p>Wat zijn de gevolgen (technisch, economisch) van dit advies voor het project? Zie EB voor effect hiervan tezamen met andere factoren. Gevolgen van een eventuele (marginale) bijstelling van de P50 op exploitatieberekening in de toetsingslijst EB verwerken.</p>		

EB Nr.	Exploitatieberekening	Nee	Ja/ n.v.t.
	De resultaten van de exploitatieberekening worden bepaald door aannames omtrent de invoerparameters.		
1	Is de P50 voldoende aannemelijk? (zie WR 9) Ook na eventuele (marginale) bijstelling.		JA
2	Is een specificatie van de investeringskosten (CAPEX) per component aanwezig? (Regeling, artikel 3 lid 4.a)		JA

EB Nr.	Exploitatieberekening	Nee	Ja/ n.v.t.
3	Zijn de investeringskosten voldoende aannemelijk? (zie DD 1) Ook na eventuele (marginale) bijstelling. De investeringskosten zijn bijgesteld naar referentiewaarde. Zie DD		JA
4	Zijn alle relevante exploitatiekosten gespecificeerd? (Regeling, artikel 3 lid 4.b)		JA
5	Zijn de exploitatiekosten voldoende aannemelijk? (zie DD 2) Ook na eventuele (marginale) bijstelling. De exploitatiekosten zijn bijgesteld naar referentiewaarde. Zie DD		JA
6	Zijn alle relevante inkomsten gespecificeerd. Inkomsten in het rekenmodel worden bepaald door de marktprijs en de GVO's. (Regeling, artikel 3 lid 4.b)		JA
7	Zijn de inkomsten zoals in het rekenmodel gespecificeerd voldoende aannemelijk? (Stem eventueel af met expert) Ook na eventuele (marginale) bijstelling. [REDACTED] Deze wordt als voldoende aannemelijk beschouwd.		JA
8	Is de rente op vreemd vermogen voldoende aannemelijk? Overleg met financieel expert. Indien alles uit eigen vermogen wordt gefinancierd dan n.v.t. invullen. [REDACTED] Dit is akkoord.		■
9	Is het investeringsschema voldoende consistent met andere delen van het plan, bijvoorbeeld het financieringsplan en projectplan? Volgens exploitatie berekening loopt investering [REDACTED] [REDACTED] In aanvraagformulier staat beoogde opdrachtverstrekking [REDACTED] en start levering 1 ^e elektriciteit [REDACTED]. In het projectplan staat opdracht bouw [REDACTED] en start operationele fase [REDACTED].		JA
10	Is het opstartschema voldoende consistent met andere delen van het plan, bijvoorbeeld het investeringsschema en projectplan? Volgens de exploitatieberekening start de elektriciteitsproductie in [REDACTED] Dit komt overeen met projectplan en tijdschema in aanvraagformulier		JA
11	Is er een berekening van het projectrendement over de looptijd van het project? (Doordat het rekenmodel van RVO is voorgeschreven, wordt automatisch hier aan voldaan als het rekenmodel als bijlage is ingediend bij de aanvraag) Het rekenmodel van RVO is gebruikt (Regeling, artikel 3, lid 4.c)		JA
12	Is het voldoende aannemelijk dat de bouw en exploitatie economisch haalbaar is? De CAPEX, OPEX en de P50 zijn bijgesteld naar [REDACTED] [REDACTED] referentiewaarden. Na herberekening is het projectrendement nog steeds positief (niet economisch haalbaar, dan afwijzing op grond van Wet WOZ, artikel 14, lid 1.e)		JA

KB Nr.	Kavelbesluit (externe adviseur, RWS)	Nee	Ja/ n.v.t.
	Een advies van een externe adviseur, waarbij binnen RVO onvoldoende expertise is, wordt op de volgende aspecten getoetst (Zie advies Landsadvocaat dd. 25 mei 2016):		
A	Is het advies van de expert schriftelijk uitgebracht		JA
B	Zijn in dit advies alle relevante feiten en gegevens betrokken		JA
C	Blijkt uit het advies voldoende gedetailleerd welke procedurele stappen zijn gezet bij de beoordeling van de elementen uit de aanvraag		JA
D	Is de in het advies gevolgde gedachtegang duidelijk, begrijpelijk en voldoende controleerbaar? Herhaling van het onderzoek door andere experts moet mogelijk zijn.		JA
E	Zijn de conclusies begrijpelijk en liggen ze in het verlengde van het door de expert verrichte onderzoek		JA
	Neem in deze toetsingslijst de conclusies uit het rapport van de externe expert over.		
1	Is voldoende aannemelijk gemaakt dat aan het Kavelbesluit zal worden voldaan? (Wet WOZ, artikel 14, lid 1.f en Regeling, artikel 3, lid 1.b)		JA

WB Nr.	Waterbesluit artikel 6.16d, lid1, onderdeel c (externe adviseur, RWS)	Nee	Ja/ n.v.t.
	Een advies van een externe adviseur, waarbij binnen RVO onvoldoende expertise is, wordt op de volgende aspecten getoetst (Zie advies Landsadvocaat dd. 25 mei 2016):		
A	Is het advies van de expert schriftelijk uitgebracht		JA
B	Zijn in dit advies alle relevante feiten en gegevens betrokken		JA
C	Blijkt uit het advies voldoende gedetailleerd welke procedurele stappen zijn gezet bij de beoordeling van de elementen uit de aanvraag		JA
D	Is de in het advies gevolgde gedachtegang duidelijk, begrijpelijk en voldoende controleerbaar? Herhaling van het onderzoek door andere experts moet mogelijk zijn.		JA
E	Zijn de conclusies begrijpelijk en liggen ze in het verlengde van het door de expert verrichte onderzoek		JA
	Neem in deze toetsingslijst de conclusies uit het rapport van de externe expert over.		
1	Heeft de aanvrager, indien hij niet gecertificeerde turbines in het aanvraagformulier heeft vermeld, voldoende aannemelijk gemaakt tijdig te voldoen aan het Waterbesluit artikel 6.16d, lid 1, onderdeel c?		JA

SV Nr.	Samenwerkingsverband	Nee	Ja/ n.v.t.
1	Als er geen samenwerkingsverband is, dan is bijlage 9 niet verplicht, kies dan n.v.t. Als er wel sprake is van een samenwerkingsverband en de bijlage 9 is toegevoegd en correct, kies dan Ja, anders kies Nee. (Regeling, artikel 3, lid 10.c)		n.v.t.

23 Nr.	Toets op Wet WOZ, artikel 23 lid2: d, e, f, g, h,	Nee	Ja/ n.v.t.
1	In de raming van de maatschappelijke kosten bedoeld in artikel 23, tweede lid, onderdeel d , van de wet, wordt ten minste aandacht besteed aan de bezetting van het net van de netbeheerder van het net op zee uitgedrukt in het aantal MWh per jaar. (Regeling, artikel 3, lid 5) Is in de aanvraag het aantal MWh per jaar (P50) benoemd? Er is een Windrapport met P50 berekening toegevoegd.		JA
2	Omvat de inventarisatie en analyse van de risico's , bedoeld in artikel 23, tweede lid, onderdeel e , van de wet, ten minste: a) de risico's bij de bouw van het windpark; b) het risico van fluctuerende elektriciteitsprijzen en de waarde van garanties van oorsprong; c) de risico's bij de exploitatie van het windpark?		JA JA JA
3	Omvat de omschrijving van de maatregelen ter borging van de kostenefficiëntie , bedoeld in artikel 23, tweede lid, onderdeel f , van de wet ten minste a) de methodes van risicobeheersing, b) de wijze waarop risico's in het verleden zijn geborgd en bij thans lopende projecten voor windenergie op zee worden geborgd, c) alsmede de voorgenomen mitigerende maatregelen ten aanzien van de in het zesde lid bedoelde risico's.		JA JA JA
4	Bevat de aanvraag de onderstaande bij de bouw en exploitatie van het windpark betrokken partijen , bedoeld in artikel 23, tweede lid, onderdeel g , van de wet: a) de aanvrager en indien de aanvrager een samenwerkingsverband betreft, elke deelnemer aan het samenwerkingsverband; b) de verantwoordelijke partij voor het projectmanagement; c) de leverancier van de windturbines; d) de installateur van de windturbines; e) de leverancier van de funderingen; f) de installateur van de funderingen; g) de leverancier van de parkbekabeling; h) de installateur van de parkbekabeling; i) de verantwoordelijke voor het onderhoud en de bediening van het windpark.		JA JA JA JA JA JA JA JA JA
5	Omvat de beschrijving van de kennis en ervaring van de betrokken partijen, bedoeld in artikel 23, tweede lid, onderdeel h , van de wet, de kennis en ervaring bij windparken op zee: a) het geïnstalleerd vermogen van de windparken waarvoor door de verantwoordelijke partij voor het projectmanagement tijdens de bouw het projectmanagement is gedaan; b) het aantal door de leverancier geleverde windturbines; c) het aantal door de installateur geïnstalleerde windturbines; d) het aantal door de leverancier geproduceerde funderingen; e) het aantal door de installateur geïnstalleerde funderingen;		JA JA JA JA

23 Nr.	Toets op Wet WOZ, artikel 23 lid2: d, e, f, g, h,	Nee	Ja/ n.v.t.
	f) het aantal windturbines waarvoor door de leverancier parkbekabeling is geleverd;		JA
	g) het aantal windturbines dat door de installateur van de parkbekabeling is aangesloten;		JA
	h) het geïnstalleerd vermogen van de windparken dat de verantwoordelijke voor het onderhoud en de bediening in onderhoud heeft en bedient.		JA

Opmerkingen en bevindingen van de controles en herstel.

Beschrijf opmerkingen en bevindingen in de onderstaande tabel onder verwijzing naar Toetsingslijst Nr. Betrek JZ indien een bevinding kan leiden tot een afwijzing en overleg met JZ of er een mogelijkheid tot herstel is. Herstel is alleen mogelijk als bepaalde informatie niet duidelijk is. In dat geval mag in overleg met JZ een gesloten geformuleerde (ja/nee) verhelderingsvraag gesteld worden. Is de conclusie dat een aanvraag moet worden afgewezen, formuleer dan in overleg met JZ een afwijzingstekst.

TL	Nr.	Opmerking/bevinding
		Geen opmerkingen

Eindconclusie inhoudelijke beoordeling

De eindconclusie van de inhoudelijke beoordeling is gebaseerd op de hiervoor ingevulde toetsingslijsten.

Rangschikken Ja of Nee?	
De aanvraag voldoet aan de indieningsvereisten (TVol) en alle inhoudelijke toetsingscriteria in de toetsingslijsten zijn met Ja of n.v.t. beantwoord. Ja deze aanvraag wordt opgenomen op in de rangschikking.	JA
De aanvraag voldoet niet. Wijs de aanvraag af op een relevante wettelijke grondslag. Formuleer hieronder in overleg met JZ de afwijstekst en ga verder met het afwijsp proces. Nee deze aanvraag wordt niet opgenomen in de rangschikking.	

Concept afwijstekst: